

University News

MONDAY, JANUARY 17, 1994

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Decentralization in the Management of
Indian Universities



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A.R. Chauhan
REGISTRAR

UNIVERSITY OF CALICUT

Calicut University P.O.

GENERAL AND ACADEMIC
BRANCH II

ADDENDUM

Reference Advt. No. G.A. II/C1/2871/92 dated 29-11-1993 appeared in *University News* issue dated 27 Dec 93.

Selection to the post of Lecturer in Psychology (Reserved for Muslim) in the Department of Psychology, shall be made subject to the final verdict in the O.P. pending before the Hon'ble High Court of Kerala.

Prof. T.K. Ummer
REGISTRAR

ANNAMALAI UNIVERSITY

NOTIFICATION

61st Annual Convocation - 1994

The 61st Annual Convocation for conferring Degrees, Titles and Diplomas will be held at Annamalaiagar during the month of February/March 1994.

Filled in applications from the candidates for admission to the degrees, titles and diplomas either **In Person** or **In Absentia** must reach the Registrar, Annamalai University, Annamalaiagar 608 002 on or before 4-2-1994. Printed form of applications can be obtained by sending a self-addressed envelope affixing stamp to the value of Rs. 2/

Those who have won a Prize/Medal, those who have qualified for Research degrees including M Phil in all disciplines, M.B.B.S., B.D.S. and only those who have qualified in P.G. Courses, (except Post B.Sc Diploma, Post M.Sc diploma and P.G. Diploma) B.E., B.Sc (Agri) and B. Pharmacy in First Class with Distinction or First Class may apply "In Person". All other candidates shall be permitted to take their degrees only in "In Absentia".

Distance Education Graduates: Those who have not already submitted their applications for the award of degree/diploma (In Absentia) may submit the same on or before 4-2-1994. Separate application form will be issued for Distance Education Graduates.

Dr. PR. Karpagaganapathi
REGISTRAR

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Editor :
SUTINDER SINGH

Decentralization in the Management of Indian Universities

J.V. Vilanilam*

I

Decentralization is a concept heard quite often these days not only in political and government circles but also in academic deliberations. There are skeptics who point out that though decentralization is a noble concept, its implementation remains anybody's guess, and that power at the top does not flow down to the lower levels but stays as ever at the top. There are others who refer to centralized decentralization or decentralized centralization.

Sharing and delegation of power are quite essential if development goals are to be achieved. In the university system, power resides statutorily in appointed officers such as the Vice-Chancellor, the Pro-Vice-Chancellor, the Registrar, the Finance Officer and the Controller of Examinations. But since the finances of universities are regulated as well as engendered through state and central governments, management of a university depends considerably on government funding. Moreover, though the officers of the university have power, the freedom to exercise that power for the good of the university depends on the type of Senate, Syndicate and Academic Council, the Faculties, the Boards of Studies, the Students' Council, the Finance Committee, etc., which are the authorities of the university in existence at a given time. What the officers of the university can do is to implement the decisions of these bodies although the Vice-Chancellor as the top academic and executive head of the university has certain veto powers vested in him/her. Normally these veto powers are not exercised by the Vice-Chancellor. This is the general pattern of the top management structure of an Indian university, evolved many decades ago. With minor variations most Indian universities follow this pattern.

Decentralization in the management of the university system in India can be meaningfully discussed only in the context of financial freedom. Higher education in India is still largely a "budget-based", "government-funded" system. As the UGC's Programme of Action (POA) 1992, a revised version of the National Policy on Education (NPE) 1986, says :

"Education in India has been largely a budget-based system where efficiency is rated by ability to 'consume' budget and to demand more. Performance at delivery point has not been an important criterion. The on-going economic reforms and structural adjustments would, therefore, demand a shift from inputs to performance and outcomes ... consideration of cost effectiveness should inform all levels of educational administration and planning."

The POA draws attention to the absence of decentralization, to the failure to evolve priorities and to a weak personnel management system. It refers to ineffective intra-departmental and inter-departmental coordinating mechanisms and the failure of routine tasks like the supply of textbooks, conduct of examinations and the operation of the academic calendar (if at all there is an effective and well-planned

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calendar). The NPE and POA have stressed the need for decentralising planning and management of education at all levels and involving people in the process, to ensure democratic participation by elected representatives of the people in decision making.

Let us make a quick review of the constitution of the Senate of one university and then examine if there is participation by elected representatives. The Senate has 39 nominated members of whom seven are heads of university departments and four are Deans of Faculties and one is Chairman of the University Union. The number of elected members is 78 : seven principals elected from among themselves; 20 elected by the registered graduates from among themselves; 6 MLAs : 3 elected by the teachers of the university from among themselves; 5 elected by the teachers of Government colleges from among themselves; 16 elected by teachers of private colleges from among themselves; one member elected by the members of the local authorities of each district in the university area; two members elected by the registered trade unions in the university area; one member elected by the members of the non-teaching staff of the university; three members elected by the members of the non-teaching staff of the affiliated colleges; four members elected by the managers of the private colleges and 10 members elected by the members of the General Council of the University Union from among full-time students. Thus almost 70 percent of the Senate are *elected* members, representing principals, teachers, non-teaching staff, the State Legislative Assembly (which means representation of the general public, the electorate, of the university area); registered graduates, trade unions, teachers' unions, local bodies, non-teaching staff, college management and students. Election of these members is based on political party affiliations. The Senate thus becomes a political body consisting of persons elected on party lines. Sometimes blinded by subjective party loyalties, members of the Senate take unscientific attitudes to purely academic issues. Management becomes difficult, if not ineffective.

The Syndicate has 12 members elected by the Senate, of whom six are persons who are *not* teachers, thus making it another politically-biased body. With the addition of a student representative on the Syndicate, there are 13 elected members (of whom seven are non-teachers); 68.4 per cent of the Syndicate's membership is elected. The democratic process is certainly at work but somewhere along the line, matters to be decided purely on academic

merit get bogged down in unnecessary political controversies. Management becomes difficult.

The same predominance of politically elected members can be found in the Academic Council too.

The Educational Consultants (EDCIL), a Government of India Undertaking, made a study on models of management in 1986. Some of its significant observations are quoted in the UGC Report, *Towards New Educational Management* (New Delhi: UGC, 1990, pp. 51-52) as follows :

"It is important that the objectives of the University are well defined in the light of the New Education Policy and incorporated in the Acts. The UGC Act should be so amended as to make the Commission's prior concurrence obligatory for opening new universities. ... There should be no elections to the University bodies since this has been a source of problems.

No Minister or member of the Legislature should hold any office in any university or serve on any university body ex-officio. The Courts or the Senates are unnecessary and it is recommended that they should be abolished. Widespread consultation should be encouraged with teachers, non-teaching staff and students. The Academic Council should not be larger than 30 members and there should be no election for any position on the Academic Council. ... There should be a clearly specified Code of Ethics for teachers, a Code of Conduct for the non-teaching staff and a Code of Discipline for the Students."

The primary reform needed, therefore, is in the constitution of the authorities of the university. Universities have to become places of learning rather than courts of political intrigues.

After analyzing various Acts of the universities in India, the UGC Committee came to the conclusion that the Acts and Statutes are "strikingly similar though not identical in most of the major respects." There are differences only in degree and not in kind. But the most significant finding of the Committee is that the Acts of most of the universities

"create rigid management structures with the least provisions of flexibility for enabling the Universities to have innovations in teaching, research and extension and bringing relevance

and excellence to the academic programmes of the Universities," (*Towards New Educational Management*, p. 70).

This rigidity is reflected in the actual day-to-day administration of the university. Even routine, insignificant matters are referred to the Vice-Chancellor. The system works on excessive centralization at the level of the Vice-Chancellor and the authorities such as the Syndicate. Delays in decision making, voluminous paper work, lack of confidence at the lower levels of management, tendency to push all papers up for decision, and different decisions on different occasions depending on situational ethics — all these mark university administration. The end result is dissatisfaction among the students, teachers, administrative staff, parents and the general public. Add to this the sudden and prolonged agitations by students, staff and teachers. The picture of university management becomes dismal.

Decentralization will solve many of these problems, but it can be implemented only through a complete restructuring of the system, together with steps to make every unit accountable. This noble goal can be achieved by increasing the representation of the academic community in the various bodies of the university, and by emphasizing the basic principles in education : teachers must teach and do research; students must learn; libraries must become properly equipped and function smoothly; departments must become more autonomous; the system of affiliation has to be reviewed with a view to make affiliated colleges more autonomous and socially responsible; admissions should take place on time; teaching and evaluation should proceed hand in hand; the quantum of public examinations conducted by the university should be reduced; and formal and informal consultations among teachers, students and parents should increase; and institutions of higher learning should become accountable to society.

II

Looking at the structure of higher education one can observe some other important aspects. There are three types of institutions engaged in imparting higher education : unitary universities; affiliating universities and deemed universities. Unitary universities are few in number; deemed ones are also few; the large majority are affiliating. The biggest management problems are encountered in the affiliating universities and hence we have to give the major attention to them in relation to decentralization.

From 1857, the year in which the first three universities were established in India (Calcutta, Bombay and Madras), to the present day, most of our universities have been following the old pattern of "affiliation" which, as somebody quipped, is the most serious "affliction" in those universities. Affiliation is to be re-examined in today's context for the following reasons :

1. Affiliation to a centralized system under the direct control of the university in the Presidency headquarters (capital) was the pattern established by the British. There were only a few colleges in and around the provincial capital and communication between the university and the affiliated colleges in the same area was easy and smooth.

Today we have colleges in remote areas affiliated to the university and for every minor and major activity the affiliated college depends on a far off, impersonal, centralized system.

Catering to the needs of students in remote corners of the country was not a major concern during the 19th and early 20th centuries.

2. The number of universities and colleges affiliated to them in pre-Independence days was small. The number of students going for higher education was also small.

3. The ideal of democratizing education during post-Independence days has naturally led to a sudden increase in the number of colleges and universities. Of course, this was the right thing to happen, but sudden expansion of higher education led to a lowering of the quality of educational services provided to the students, quality of the teaching staff and library facilities. The university sets standards but there is no proper mechanism or the will on the part of the authorities to monitor the observance of those standards, with the result that quality has suffered in most affiliated colleges. Moreover, there is no effective management of the student population or teaching and learning systems in many of those colleges. Added to this is the phenomenon of parallel and tutorial colleges where regular students go during class time at their own colleges !

4. Although affiliation is an idea that originated in Britain, especially with the London University which was established in 1836, neither London nor the other long-established universities such as Oxford and Cambridge had colleges other than their constituent colleges on the same campus affiliated to them. This has special relevance to educational planning in India.

5. The number of students in the affiliating universities of the U.K. is quite small, ranging between 500 and 1,000 in the affiliated Halls/Colleges, and 5,000 to 25,000 in the whole university. What is the condition of the affiliating universities in India? To take just one State as an example, the University of Kerala has 60 affiliated colleges situated in towns far away from the city of Trivandrum, the headquarters of the University. In most of these affiliated colleges (except the professional ones), the student strength is between 2, 500 and 4,000. The same is the case with the Mahatma Gandhi University and the University of Calicut, the other two affiliating universities in Kerala: MG has 65 colleges and Calicut has 105. The student population in these universities varies between 80,000 and 100, 000. The universities are unable to provide adequate services to these colleges and their population.

6. Based on student population, India needs at least a thousand universities and ten thousand colleges. Currently there are about 200 universities of the three varieties mentioned above and about 7500 colleges.

7. Since the establishment of such a large number of universities and colleges is cost-prohibitive, we have to think in terms of (a) taking measures to curb the large influx of students into colleges where they are not trained for anything except unemployment; (b) starting Open Universities in every State where there is a large demand for college education; and (c) strengthening the distance education mode by reviewing the work of Correspondence Institutes now operating in some universities.

8. In order to bring about radical changes in the structure of universities, at least a thousand colleges now affiliated to the various universities may be given full autonomy to devise courses required for particular localities and raise the funds on their own. The university need give only general guidelines about academic and administrative matters including recruitment policies. The actual management of the college should be left to each college.

9. Affiliated colleges of British universities such as Oxford and Cambridge are independent self-governing units, quite distinct from the university, "with their own property and income," as mentioned in the *Commonwealth Universities Yearbook* of 1993 in respect of Cambridge (p. 2291). "Their affairs are regulated by their own statutes, though, these cannot be altered without the approval of the

University and the Queen in Council, and they are also bound by some of the University statutes". Most colleges of this kind affiliated to Oxford or Cambridge have under 500 students and they are situated within half a mile of the major buildings where the University headquarters are situated.

When we talk of autonomy for affiliated colleges, we should not forget that the basic philosophy that guides Western societies is one of competition with social responsibility, the norms of which are legislated by Parliament, the universities and municipalities. The actual implementation of educational plans and goals within the framework of those norms is left to each college.

Some may point out that the conditions of democratic decency, respect for dissenting voices and the rule of law prevalent in old, established Western democracies are not obtainable in India and therefore they question if what is good for Europe or the U.S. is good for India. Our reply to them is that some of the good aspects of the Western model are already in our system and that our universities and colleges have been established on the Western model. If the Western philosophy of free enterprise is not acceptable or practical in our changed circumstances, let us evolve something new that fits our social and economic environment, without becoming hypercritical of the British model even while going halfway towards the same model and thus confusing the entire management scene in our educational system.

Decentralization can be thought of in terms of delegation of more powers and raising the limits of financial sanction to the lower levels of administration. Today, in many Indian universities, each department or section runs to the higher authorities even for routine matters involving very small amounts of expenditure because of the rigidity of the regulations and statutory requirements. This results in all files moving slow to the higher authorities. Management decisions that can be made at the lower levels get delayed inordinately in this up-and-down travel of files !

III

Management of large or small organizations is essentially management of three things : manpower; materials and equipment; and goal-oriented systems and procedures.

As far as university management is concerned, manpower consists of a large number of under-

graduate and postgraduate students, teaching, research and extension staff, and non-teaching staff who ought to support and facilitate the implementation of academic decisions. The primary requisite is recruitment of the right type of people for the various sectors, if our aim is excellence.

First, the recruitment of students. Today, we are recruiting a very large number of students on the basis of the marks obtained by them at a qualifying public examination. The system of examination itself is fundamentally faulty. One teacher teaches, another sets the questions sitting far away from the scene of teaching, a third does the evaluation in the same surroundings as the second, and a fourth does the re-valuation! Thus teaching and evaluation are far apart, almost four times removed from reality. The process of teaching does not end without evaluation by the same teacher who teaches. The evaluated material has to be returned to the student so that periodic revision and improvement in the teaching methods and the learning process can be made.

The goal of teaching is not just to give a few lectures based on prepared notes (prepared decades ago, perhaps!) and leave the evaluation to a centralized agency unconnected with the process of teaching those students. Students are thus evaluated in an artificial system. There are umpteen complaints about malpractices in question paper setting and answer script evaluation. There are also many complaints about copying in the examination hall, lack of invigilation, active involvement of invigilators and examiners in helping some students, etc., as well as about haphazard and hurried evaluation.

Evaluation of a student is to help the student understand drawbacks and fill the gaps in knowledge. It will also help the teacher realize if teaching has been effective. Instead, what we do at the end of the year is to hand over the student to an unreal, unscientific and often faulty system of evaluation. The very fact that almost a quarter of the students apply for revaluation soon after results are announced in a university shows how poor and dangerous the first evaluation could be. Our present system does not trust the teacher who teaches. If the teacher who teaches returns the evaluated answer scripts periodically, the students get an opportunity to compare notes with classmates and approach the teacher for redressal of grievances, if any. The teacher will do a more conscientious evaluation.

The recruitment of students has to be looked at from another angle. Many educationists agree that the large influx of students into colleges today is the result of our present socio-economic situation. Many students are in college mainly because they have nothing else to do. As Amrik Singh and others observed at a recent Consultation held in Bangalore, the colleges in our country are performing the task of *baby-sitting* for boys and girls who are there not on their own accord in the pursuit of knowledge but by the force of circumstances. Higher education, according to many thinkers, should be confined to those who are seriously interested and competent enough to deal with matters of higher intellectual exercises and research. Instead, what we do now is to offer the facilities (often inadequate) in colleges to a very large number of young people who have no motivation for higher education; they are there primarily to while away their time and obtain a degree as a passport to some clerical or other jobs totally unconnected with their subject of study. It is no exaggeration that there are persons with doctoral degrees working as assistants in universities, and postgraduates working as bus conductors — at least this is the case in the most literate state in India, namely, Kerala. What a waste in manpower, money and material to impart costly higher education to create an army of unemployed and unemployable graduates!

The situation can be corrected only by delinking jobs from degrees. Many of the jobs that are performed by college graduates can be performed equally well if not better by high school graduates who will have better job satisfaction. There are also hundreds of jobs requiring some technical skill or other, but there are not enough trained personnel for those jobs. Reform in the curricula of schools is the most immediate necessity if we have to achieve any reform in higher education. We hear a lot about professionalizing and vocationalizing higher education; but what we have to do is to introduce vocational courses at the middle and higher school level. Unless our school system is improved to give young people a chance to discover their own occupational inclinations, whatever we do at the top will be of small impact on the overall social condition.

Another feature of the persons entering college is the unwillingness on the part of most of them to do manual work. The root cause for this apathy towards manual work can be found in the emphasis given to bookish learning offered at school. In many advanced countries, opportunities are given to

youngsters for hand-head coordination through manual work at school. The hand is the extension of the head, of thinking. What the head thinks is put into practice by the hand. Children are to be given ample scope for exercising this natural linkage in actual work situations. Many are the schools in those countries which make it mandatory for their pupils to do some work in the workshops attached to the schools. In other words, children at the middle school level start doing things : carpentry, smithy, polishing, painting, chiselling, etc. They become adept with tools. There is no distinction between high and low in these matters; all children have to get this training. When they reach the higher secondary level, they are fairly clear about what they want to do in life. There is dignity of labour built into them during school. Those who really want to go to college on a full-time, regular programme of study take a national aptitude test. It is unrealistic to expect all children to be engineers, doctors, space scientists, computer experts and IAS officers. Let the children discover themselves; give them that chance instead of thrusting parents' will upon them. In many urban areas, one is saddened to see even very small children travelling in crammed cabs or buses for one hour or so to reach their school, carrying heavy loads of textbooks and notebooks. Children should be allowed to play and learn instead of being subjected to such "cruel and unusual intellectual punishment !" What these poor children get is information not education. And information unrelated to life situations is easily forgotten soon after their tests which only test their memory.

Moreover, our social setup is such that even while living in a modern age, we tend to stick to certain old practices and associate indignity with certain types of work. Children, before they are caught in the web of their elders' caste predilections and prejudices, will enter a more rational society if they start doing certain types of manual work irrespective of caste, creed or religion. A sense of equality of all human beings can be inculcated in them at a tender age. The new India which Vivekananda, Gandhi, Nehru and others wanted to build can become a reality when the young shed their parents' attitude to work through a new approach to education. Out of this new generation of high school graduates must emerge a new set of students, teachers and administrative staff in the years to come.

Right now we have a group of frustrated youth

who do not want to work hard for anything. Added to this is the sudden rise of expectations generated by the TV. So they expect everything at the touch of a button. A substantial number of students cheat at examinations, threaten invigilators and evaluators and do all sorts of things except study hard! If they had been trained for any job at the high school level, many of them would not have gone to college. And after college they land some low level jobs because the college does not offer them any job-oriented skills. Their frustration is beyond measure but it finds outlets in organized demands for more and more emoluments for less and less work. The students, teachers and the public are not served by them, with any dedication. This leads to personnel management problems.

As for teachers who enter university service, the biggest problem is again finding the right talents for the teaching profession. The UGC's new and improved scale of pay, etc. for each category of teachers was introduced with the noble purpose of attracting the right persons to colleges. Teachers, by and large, are more concerned with emoluments than with the improvement of the quality of teaching and research. When the right kind of students and teachers are not entering colleges and universities, the result is disastrous. Managements committed to quality must have the freedom to recruit the right type of students and teachers and administrative staff.

IV

Although there are other issues connected with decentralization in the management of educational institutions, we could examine only the following within the limited space of this article: statutory changes essential for delegation of more powers to the lower levels of university/college management; improvement in the quality of students, teachers and administrative staff; rethinking the old idea of affiliation; and more academic and financial autonomy for colleges whereby new courses can be introduced depending on the needs of a particular region and better forms of student evaluation. One has to stress again that higher education can improve only with job-degree delinking, recruitment of those who are really committed to higher education, and above all, introduction of vocationalization at the school level itself.

[The views expressed in this article are the personal views of the author and not those of the University of Kerala.]

Do We Need Government Colleges ?

Amrik Singh*

While, in some states, there are more government colleges than privately-run colleges, the overall picture is that government colleges constitute one third of the total. The remaining two thirds are private.

To claim that government colleges are doing better than private colleges would be misleading. While some of them like the two Presidency colleges in Calcutta and Madras, even Elphinstone College in Bombay, another one in Ajmer and quite a few others were performing very well before 1947, the same cannot be said of them today. Even the Government College, Lahore performed very well and still continues to attract the best students in that part of Punjab, the general situation is one of steady decline and poor management.

There was a good reason why the government colleges were performing well at that time. Funding was no problem for them; they were government-established and government-run. In course of time, they came to be looked upon as model colleges and performed well. The private colleges in contrast were often short of funds. A few of them managed to raise funds successfully and did well but the bulk of them were poor in resources and suffered from all those problems which lack of funding brings.

During the last few decades, the situation has changed. Almost all over the country, privately-run colleges are receiving liberal grants from the government. The formula for grant ranges from 75 per cent to 95 per cent of the deficit. Scarcity of resources has therefore ceased to be as much of a problem as it used to be at one time. Fees being what they are, this virtually amounts to three fourths of the total quantum of expenditure. In certain cases, it is even higher.

Meanwhile the UGC too has started helping the colleges. Around one fourth of its budget is spent on them. That the amount so given does not help the colleges beyond a point is another matter. The fact remains that there is now a new source of funding for about 50 per cent of colleges in the country (7,000 plus) has made a difference in the situation.

To put no more gloss on it, government colleges have lost the primacy that they had at one time. On the contrary, they are now saddled with a fresh disadvantage which did exist in the past but has

now assumed a new menacing dimension.

This refers to the transfer policy followed by the state governments. As in other departments, teachers in government colleges are also liable to transfer. In olden days too, there were difficulties but nothing to match what is happening today. Before 1947, things were done much more fairly than they are today. Now we have a new breed of administrators known as ministers. Whatever other attributes they might have they do not suffer from any pangs of conscience when unfair transfers are made. Nor are they "afflicted" with a particularly high degree of integrity. Most of them in fact are given to sharp practices and self serving actions. This being so, amongst others, teachers too have become their victims.

A college teacher is transferred from one place to another, sometimes because he wants it that way but more often because somebody else wants it that way. Therefore the existing person has to be transferred to accommodate the other person. Sometimes there are genuine problems too, like posting a husband and a wife at the same place. People are always prepared to understand such situations but they cannot understand when these things are generally done for irrational and self serving reasons.

Situations of that kind are so numerous that it would be futile to refer to any one of them. But it would be in order to refer to the example of Presidency College, Calcutta which, for over a century, has had the reputation of being about the best college in India. It has produced great academics like J.C. Bose, R.C. Ray, P.C. Mahalobonis and quite a few others. Its Department of Economics was recognised by the UGC even before the University Department of Economics was recognised and so on.

But for the last several years, people have gone about criticising the fact that those posted to Presidency, Calcutta are seldom transferred outside. This is described as an example of elitism. Now, in this college too, transfers are made, and sometimes quite recklessly. Not so long ago, one of the leading economists of the country quit the college and moved to the Indian Statistical Institute because he did not wish to have the threat of transfer hanging over his head.

Given this situation, there are two ways of dealing with the problem. One is to discontinue the policy of transfers as a matter of policy. Even if that is done, the question would still remain : is there any point about retaining control of certain colleges

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by the Department of Education? All that the government does is to provide funding through the state exchequer. Everything else is controlled by the university and this refers to prescribing the syllabus, conducting the examinations, etc. In this process, something is lost and that needs to be looked at.

An educational institution, if it is to grow and flourish, has to have a personality and an ambience of its own. This is possible even when the colleges are managed by the government and some of the government colleges have managed to acquire the right kind of aura. The problem however is that this cannot be always sustained. This happens because a good part of the contribution comes from the personality of the principal. If the senior most person is to be posted as the principal, and that also sometimes only for a year or even less for reasons of seniority, there are bound to be problems.

Would it not therefore be better if, while retaining the ownership of those colleges, the government might set up local committees, give them the power of managing the colleges and itself step aside. In financial terms, it would make no difference. But in managerial and academic terms it would make a difference. There are a couple of pre-conditions however which must be met.

The managing committees should be constituted in such a way that there is a proper mix of ex-academics, a few members of the teaching and non-teaching staff, some members of the public and some official nominees, perhaps not more than two or three. They need not be burdened with too much work but surely they must be expected to take all relevant decisions. The main executive job should be done by the Chairman who may be selected not necessarily through election but through some other mode. While the government may nominate the Chairman, in doing so he should be assisted by a high powered body which should include some of the vice-chancellors in the state, even ex-vice-chancellors, maybe a member of the State Public Service Commission and so on. The whole idea is to insulate the appointment of the Chairman from politicisation.

The same should apply to the appointment of teachers. Who gets appointed to each college should not be decided by the Department or the minister? That would amount to taking a political decision. This job should be done exclusively by a body of academics. Once appointed, they should not be moved around. Instead they should be allowed to strike roots, even play a role in the affairs of the city to which they are posted and so on. There is so much more that can be said in this regard but this is not the occasion to do so.

The trouble with most of us in our country is that we are so wedded to the past that we are

unable to step aside and think of a different disposition of things. The continuance of government colleges is an example of that state of mind. At one time, they did play a role and a useful one at that. Today they are becoming cesspools of stagnation, largely because of political interference and the tyranny of seniority. And, no less than that, an inability to understand the ethos of how academic institutions grow. In the alternative system proposed now, the colleges are likely to benefit without question and so would the teachers.

This liability of transfers is a nuisance and does not help anyone except those who know how to manipulate the political system. It is time that those within the system as well as outside it understand the blind alley into which these colleges have got. No less important it is also time to consider some alternatives as well.

One other question remains to be answered. Are private colleges so much better that they can be held up as models for government colleges? That would be claiming too much. Some of the private colleges are doing very well. If the kind of model followed by them is accepted by others, they too, it stands to reason, can improve and perform better. On the other hand government colleges have been on the decline during the last few decades.

The explanation, as already given, is excessive politicisation of their functioning and growing bureaucraticisation. Both these defects can be overcome once the existing system is given up in favour of a different model, the private college model for example.

To put it no more strongly, private colleges have a future whereas government colleges do not have much of a future. Some of the advantages that teachers in government colleges had earlier, pensions, etc for example, are now available to teachers in private colleges as well. A little less than 50 per cent of them already have the facility, others, would come to acquire it within the next decade or so. Why should a competent teacher therefore join a government college?

That some of the private colleges tend to function in an arbitrary manner is a fact of life. Why, for instance, in certain parts of the country trade unionism amongst the teachers has grown is directly traceable to the manner in which these private managements have functioned. This problem, though a real one, is soluble whereas the problems in government colleges, referred to earlier, are not so easy to solve. In terms of future organisation therefore, the thrust should be in favour of private management and encouraging the local communities to perform better and more responsibly. A certain amount of public vigilance is indispensable and that would have to be ensured.

Promoting Research in Medical Colleges

Tejinder Singh*
Daljit Singh*

Knowledge comes only to the prepared mind; what the mind does not know, eyes do not see — these are two well known aphorisms, which are seemingly contradictory. In fact, eyes and other sense organs continuously feed the mind with sensory data, which are constantly being analysed, stored and expressed. When a new problem or fact is observed, the inquisitive mind starts asking questions — how? why? and thus a problem is born. The pursuit of better understanding of the facts and phenomena around us in order to discover or revise facts constitutes research.¹ In the recent times, research has been a keyword of all the scientific endeavours. There is no doubt that prosperity of the developed nations depends to a great extent upon their approach to research and its application in the means of production usually results in economic boons.

The pyramiding benefits of medical research are nowhere more apparent than in the fight against AIDS. For perhaps the first time in the history of mankind, we have a disease, whose cause has been identified, isolated and cloned — all in four short years. This is an unprecedented success and is the product of years of research in genetics, immunology and other disciplines. Most of this research took place, even before AIDS was recognised as a public health threat.

It has been demonstrated repeatedly and in many jurisdictions that a close relationship exists between the quality of a nation's health services and medical research programmes.² First class contemporary health care is critically dependent upon the introduction of new concepts and technology and upon the availability within the health care system, of a capability to evaluate, adopt and wisely distribute new approaches. It is a country's medical research centres that produce the new ideas and that contain and train the various types of scientists to guide the use of innovations developed both locally and abroad.

Stagnation of traditional forms of medicine can be attributed to the absence of research spirit among its practitioners. Without research, modern medicine will also lapse into a closed and stagnating system, losing its pre-eminent position.

Specialised research institute like the Hafikines Institute, Pasteur Institute, Central Research Institute and the King Institute were established early in this century and were doing good work by 1910. All research was done here and not in medical colleges, which were primarily meant to provide lower level doctors for civil and military needs.³ There was, thus, no stimulus for research. The deficiency was felt after independence and some corrective steps like incorporating research as a part of postgraduate training were taken. However, what followed was like an amateurishly constructed boy scout campfire, which flared up every time a stick was poked into it before returning to its dull amber glow.

Very little clinical research of worthwhile type has been done in our country over the last 40 years. We have only followed, what others have taught us. Research is not for us. Others must experiment, analyse, substantiate and tell. We will accept as truth, the conclusions established elsewhere — such has been our philosophy.

A partially plausible explanation is often offered. Where are the facilities for clinical research in our country? Where is the money, material and atmosphere needed for research? The truth is that what is lacking most of all is the will and motivation. Where the motive force is strong, other impediments have usually not stood in the way. Had Lennec not bothered to think, as to how he would hear the heart sounds of a fat lady patient, Stethoscope would never have been invented? Had Withering not bothered to find out as to why a patient was improving, when she was not supposed to, he would have never brought forth digoxin? Many such examples can be quoted, where marvellous discoveries have been made under primitive conditions. Banting and Best tested the actions of insulin, not in a research laboratory but on a body dying of diabetes, in the neighbourhood. Louis Pasteur has

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very rightly said that in the field of observation, chance only favours a mind that is fully prepared. Given a sense of direction, a determined clinician can use the available material diligently and intelligently to obtain worthwhile results.

Worse than ignorance is the dismissal of research efforts as trivial. The complacent are often heard to say that most research is a waste of time. This entirely misconceives the purpose of research. Of course, all research is trivial, if measured by the contribution to public usable knowledge. Few people are destined to be Noble prize winners or will make a lasting contribution to the sum of public usable knowledge. But, research has also to be measured by what it does to those who do it, and it is then evidence of a lively striving mind engaged in its highest intellectual activity. Research enlivens clinical practice, making it more critical and more effective.

Lack of worthwhile research despite over 123 odd medical colleges in this country is a very serious lacunae and should cause concern to all those who are involved with the problem of medical education and health care. If medical education in our country has to be relevant and has to make a significant contribution to the solution of health and related problems and if we also are to stand as an equal partner with our colleagues in other countries, very substantial efforts have to be made in the field of medical research.

A feeling is fast gaining ground that the technology in medicine has outrun its sociology. The advocates of social medicine have been successful Pied Pipers — distracting students from research careers.⁴ The emphasis on primary care is gradually becoming synonymous with neglect of research, not only in India but in many other countries also.

Medical teachers in India are overwhelmed by clinical duties. In many states, they are engaged in private practice also, thus, leaving little time for research, which incidentally, has been considered essential for imparting freshness in teaching⁵. The balance between teaching and research has not been properly struck in most of the medical colleges.

Considerable effort is frittered away because of lack of proper guidance and orientation in pursuit of research. There are many constructive things that we can do to ensure that an appropriate share of the

extra-ordinary talent entering the medical field today chooses the creative life of bio-medical research.

Medical college curricula should be re-examined and modified in an effort to maximise the research opportunities for the medical students. The curricula should help the student to develop the mental discipline that is required for sound research. He should be prepared to evaluate literature so that he can be more at ease with research colleagues.⁶ This approach has been found feasible, if there are interested faculty members and there is the necessary administrative support for student research.

It has also been seen satisfactorily at various schools abroad that presentation of pre-clinical courses in study design are well received and these attest to student's perceptions of his competence and knowledge of study design.⁷ Periodic reinforcements in the form of journal clubs for 3rd and 4th year medical students, formal presentation of articles as part of rounds and inclusion of students in research presentation by faculty members will be needed to maintain interest and enhance the knowledge gained during previous years.

During II MBBS, students can take courses on human research methodology and can have tutorial sessions with faculty members doing such research. Later they can be given small research assignments. The method being followed at Christian Medical College (CMC), Ludhiana deserves mention. During 4th year, when the students go for ROME programmes, small assignments like feeding practices in the community or awareness regarding immunisation are given to them. They are required to collect relevant literature, conduct a study, analyse the findings and present their results before the class. This only exemplifies the fact that this method is suitable for application in our country also and needs trial at more medical colleges so that more research opportunities are provided to interested students.

Research training should be given increased visibility in the medical colleges through a designated office. Post of Director (Research) at B.J. Wadia Hospital, Bombay, can be cited as an example. Need is to create such offices at all medical colleges. This office would provide information and guidance to interested students, particularly by indicating the many different type of research expe-

riences available during and after medical years and the careers these experiences lead to.

We need to develop and make better known the career paths for students interested in research. We need to expose the students to the excitement and challenges of research on human diseases. We need to train the students in a more individualised manner, suitable for future research careers. Students should be repeatedly shown successful enthusiastic role models, who talk about their own research on significant diseases. As Lefkowitz⁹ indicates, the message that needs to be conveyed to the students is, 'I really can't imagine a more gratifying career than that of a clinical investigator'.

Medical teacher has a pre-eminent position as a mentor in shaping the entire scientific approach of the neophyte investigator. One can't learn, how to be a Scientist, in a library. Facts acquired this way are important but far from satisfactory to assure success.

The most important factor is the role of medical teacher as an enthusiastic, charismatic, highly visible leader. Such a role is necessary, if we are to interest the students in clinical investigations. He must be able to 'turn them on' or to use a popular term, 'market' research. He must encourage young people to 'try it, you may like it'. This is a big job, but many medical teachers in India are successfully doing it.

Medical teacher should have somewhat undefinable characteristics, involving a blend of qualities including capacity to motivate, encourage (even exhort) and to catalyse creative group interactions, where new ideas seem to spring from every quarter. He should be rarely satisfied with routine or average performances, so that his demanding standards are taken up by his juniors and students.

Postgraduate theses form the biggest chunk of medical research in India. This has been considered important because it provides methodology in collecting and composing, in addition to giving impetus to research and training in research methodology. However, writing a thesis has become a sort of enforced labour, where a topic is thrust upon the candidate, without caring to ensure his interest in it with the result that most theses are nothing but transference of bones from one graveyard to another.⁸

Encouragement of juniors is an important strat-

egy to promote research careers. It is important for the seniors to understand that they can generate enthusiasm and goal directed behaviour on the part of their subordinates. Importance of motivation in improving research prospects has not been fully appreciated. A study at a premier research institution of North India¹⁰ is of interest. In response to a question, if you do not get appreciation from your seniors, how does it affect your work?, some interesting answers were received and included statements like—decreased enthusiasm, lose interest, frustrated and so on. One researcher commented that 'even a horse needs a pat after a ride, which is missing here'. The responses are self-explanatory and need no further comment; they, however, sadly reflect the lack of sound managerial principles in our academic institutions.

The orthodox hierarchical organisational structure of medical colleges needs to be changed to matrix organisation. Efforts should be made to decentralise and delegate to the junior staff, a degree of freedom to assume responsibility, to direct their own activities and importantly, to satisfy their own egoistic needs; in essence, a change from theory 'X' of management to theory 'Y'.¹¹ It will mean, changing the belief that 'work is disliked and people prefer to be directed' to 'work is as natural as rest and play and can be made a source of satisfaction'. Infrastructure should be created for providing feedbacks and positive re-inforcements, as exist in industry. There should be performance appraisal with an emphasis on appreciation rather than criticism.

The concept of research on a wide scale in the face of growing economic problems is a myth — however, some research to solve the major problems like population explosion, poverty, illiteracy and malnutrition is imperative. Obviously, our priorities have to be different from those of developed countries. Clear policies must be enunciated for promotion of research in key areas like nutrition, immunisation, infectious diseases and delivery of health care systems.

Research activity in many institutions is mostly of an adhoc and not of continuing nature — being dependent upon the availability of funds. Very few colleges have funds available on a recurring nature. That research is an important and obligatory part of the mission of medical colleges should be recognised by our policy makers. A situation should not be allowed to develop, where research is disguised as

patient care in the hope of diverting a proportion of funds. If economic factors are crucial, it is on the care delivery side — for example, by eliminating unnecessary bed occupancy — and not on the research side that real economy should be achieved. To drive home the point, one can only quote Gibson, 'If you think medical research is costly, try disease'.¹²

Publication is the proper end point of research.¹³ It marks the completion of a piece of work, which is then submitted to a wider audience. It sets the seal on something well done. Publication is also important to prevent duplication of research. In a recent study¹⁴, research and resulting publication output of younger faculty members was found to be significantly dependent on the interest and support of the section head. Thus, to promote research, departmental heads should themselves be active contributors to literature and this brings us back to the point that the medical teacher can do much to promote research.

However, to prevent the large chunk of useless research going on, it is suggested that academic positions should be delinked from the number of publications¹⁵; the pressure to publish diverts attention from more important research problems to those promising to yield quick results. The motivating force, then becomes getting a job and not the spirit of enquiry. The market mechanism has the upper hand, not the academic honesty.

We have the confidence that within the existing resources, and atmosphere, most issues confronting us can be met and the problems solved. Scientific knowledge continues to expand at an awesome rate. The stock of valuable knowledge is at an all time high and the opportunities for successful application of that knowledge to unsolved problems of medicine have never been so bright. The future of clinical science depends upon the quality and quantity of new leaders in the field. The quality is unquestionably there; so are the numbers. If we can assure a steady supply of young physicians interested in research, future medical historians will conclude that the Golden Age of medicine was not the two decades just passed but the years that lie immediately ahead.

There could not have been any better way of concluding this discussion than a para from a resolution passed by American Association of Medical Colleges, 'Progress beyond the current state of art

in medicine requires new knowledge and deeper understanding — attainments, that can be achieved in only one way through research'.

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To Our Contributors

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Distance Education as an Alternative to Conventional Education

P.H. Sethumadhava Rao*

The distance mode of education is currently regarded as an inescapable necessity because of the inability of the conventional university system to cater to the needs of the youth in the realm of higher education.

In view of the phenomenal growth of the number of universities and colleges in India, the number of educated unemployed and unemployable youths has increased in the country resulting in a feeling of disappointment and frustration among them. In spite of this tremendous growth, only 5 to 10% of the youth in the relevant age group have an access to the facilities of higher education as compared to several other countries where 30-50% of the concerned age group have an access to higher education. In view of the continuous demands of the student population, the state governments are forced to grant permission for starting of new colleges every year without insisting either on better infrastructural facilities or on properly qualified staff. There are a number of institutions in the country termed as 'unaided institutions' and the situation is extremely pathetic in such institutions. The students are forced to pay donations, more tuition fees and above all the teachers are not paid salaries as per the prescribed scales. It is understood that a number of such unaided institutions have an under-hand dealing of receiving huge amount of donations from the prospective teachers who are again poor in their academic calibre.

It is to be noted that any increase in the number of universities and colleges is not going to meet the requirements of ever increasing student population and hence the need of the country is to search for alternatives and one such alternative, perhaps, is the distance mode of education.

The distance educational system is not a very new concept. A breakthrough took place in sixties through the introduction of correspondence courses in some selected universities. These correspondence courses attempted to open up the higher

education facilities to those (a) who are at home; (b) in the service, and (c) those who wanted to pursue higher education at their own pace. The University of Delhi introduced the correspondence course in the year 1962.

The concept of open university came to India with the establishment of Andhra Pradesh Open University in 1982. An open university is *open* in the sense that it relaxes student entry requirements in terms of age, educational background etc, adapts the structure of the curriculum to the needs of adult learners, adds to their degrees and diplomas and other nonformal socially worthwhile programmes. Thus, the open university is supposed to offer quality education through correspondence and to that large chunk of students who remain outside the conventional system. At present there are 5 open universities in the country. The Indira Gandhi National Open University, New Delhi was established by the Government of India in 1985 to serve as an apex body with the following objectives :

"The objects of the university shall be to advance and disseminate learning and knowledge by a diversity of means, including use of communication technology to provide opportunities for higher education to a large segment of population and to promote the education well being of community generally, to encourage the open university and distance education system in the educational patterns of the country and to coordinate and determine standards in such systems". (*Indira Gandhi National Open University Act 1985*)

As of today 40 universities are offering courses through correspondence. However they have the following weaknesses :

(a) They are treated as subordinate to conventional universities. They do not have financial autonomy and the decision making lies with the university authorities.

(b) The course contents and examinations are the same as those for conventional university; thus there is no flexibility in approach.

(c) The number of students offering correspon-

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dence course is very large and it has been a source of additional income to the system and proper utility of funds is not there to benefit students.

Unfortunately, as today we have a number of universities offering correspondence courses where a business type attitude exists; circulating the stereotyped lessons without revising or updating them. There are no properly qualified teachers to impart distance education. Teachers of this category need special training and this is missing at many places.

It is therefore necessary to change the scenario and make the distance mode effective so that there is a comparison between the two systems. The use of audio-video material can certainly enrich distance education. More than this, the distance education system must be treated at par with the conventional system especially in the matter of state support. The teachers imparting distance education must be given proper training as is done in western countries. A multi media approach is required in the preparation and presentation of self instructional material.

The main aim of distance education is less teaching and more learning—which is also the aim of progressive educators. A need for an integrated theory of teaching based on both hardware and

software dimensions of educational technology is inevitable. One must try to remove the barrier between the conventional and the distance education system. Higher productivity and greater flexibility are the virtues found in distance education system which also represent the transformation of education from the craft to the technology. The technology of distance education is changing so fast that it needs enormous capital investments in the purchase of hardware, software, etc. The technology has to determine the cost and scope of the distance education's delivery network.

There is also need to constantly monitor and update the course offering through distance education and hence good professional planning is necessary to make it successful.

The formal system of education has not been an effective means to equalise educational opportunities since it is rigid, inflexible and most of the time irrelevant to the needs of the learners. In order to make the closed education system open, it is necessary to create educational opportunities for the disadvantaged, to improve the professional competence of teachers and adults. An important factor that has to be borne in mind is that the distance education system may also prove disastrous unless effective steps are taken to keep it updated.

M B A ADMISSION

DEPARTMENT OF BUSINESS MANAGEMENT PURVANCHAL UNIVERSITY JAUNPUR

Applications on prescribed form are invited for admission to Two Year Full Time MBA Programme commencing from July, 1994.

Eligibility : A graduate with three year course/post graduate in any discipline securing atleast 45% marks. Final year degree students may also apply subject to the condition that they provide evidence of passing the examination with a minimum of 45% marks by July, 1994.

Test Centres : Jaunpur, Lucknow, Delhi (Subject to availability of sufficient number of candidates at the centre).

Date of Test : May 01, 1994.

Candidates qualifying in the written test will be called for Interview and Group Discussion, to be held in June 1994, at Jaunpur.

Application Form : Application form, prospectus and test booklet can be obtained from the Department of Business Management, Purvanchal University, Jaunpur-222 002 on payment of Rs. 25/-. The same can be obtained by post from the Department by remitting Rs. 35/- through Money Order (in the name of Head of Department) or Bank Draft payable to Registrar, Purvanchal University, Jaunpur.

Last Date : Last date for receiving the completed application form alongwith required documents and admission test fee by the Department is March 21, 1994.

Dated: 4.1.94

**Y.P. Shahi
REGISTRAR**

Towards an Equitable Society

Mr. Justice P B Sawant of the Supreme Court of India, delivered the Convocation Address at the 87th convocation of the University of Poona. He said "... the framers of the Constitution took a special note of the debilitating features of the Indian society and not only provided for social, political and economic justice and equality for all but also for the measures to attain them. Special provisions for the advancement of women and weaker sections of the society including socially and educationally backward classes of citizens and scheduled castes and scheduled tribes are among the said thoughtful measures. They are designed to ensure that equal opportunity is available to all the members of the society and they are able to develop their capacities to the full extent and to contribute their might to the society". Excerpts

You are graduating almost on the threshold of the 21st century. As young educated men and women, you are expected to be aware of the legacy of the mankind as a whole till date—its achievements and failures, its triumphs and defeats, its glories and miseries, its wisdom as well as its follies. Along with this global heritage, you are also expected to be familiar with the legacy of this land—which is as rich as it is varied, as enviable in some fields as it is undesirable in other respects. The region in which you are born and have studied has also its peculiar historical, social and cultural traits and they are also expected to have been absorbed by you in your formative young years. You are fortunate to have come out of the sheltered portals of the educational institutions with all the valuable experience, wisdom and lessons of the history upto this date. If you have digested even a part of these legacies, you will have derived inspiration and acquired capacity to face the future with courage, determination and foresight. You are less likely to be daunted by problems and commit mistakes and follies of the kind the past generations did. That is an ad-

vantage which every generation has over the preceding generations, provided the generations that follow study the past in the proper perspective and draw from it the proper lessons. Hence the importance of a dispassionate study of history by every individual whatever his special branch of study or avocation. No education is complete without the study of history.

You are more fortunate in that you have studied under the umbrella of a University which exercises its academic jurisdiction over a region which has made history in almost all walks of life. It has witnessed revolutionary movements in spiritual, political, educational and economic fields. All these movements were born within a few miles of the precincts of this University. The 13th Century saw rekindling of spiritualism in the common man by Saint Dnyaneshwara who opened its gate to all by not only explaining the philosophy of Bhagwat Geeta in common man's language but also propounding his own unique philosophy with its aid, much to the chagrin of the orthodox. The foundation laid by Dnyanesh-

wara for spreading spiritualism was built upon by the other saints who followed him. They also championed the cause of spiritual equality and the equality of man before God, whatever his caste and community and whatever his status in the society. The message of equality between man and man reached its pinnacle in the 17th century in Saint Tukaram's preachings which have yet to be surpassed for their simplicity and felicity of language, profundity of philosophy and clarity and forthrightness of their message. His Abhangavani has become a classic literature, has travelled from generation to generation and has survived in the hearts and minds of both the literate and the illiterate, the young and the old, for all these years. The same century witnessed yet another epoch-making revolution in this region. It was a saga in unparalleled leadership, indomitable courage and unflinching determination. When the spirit and mind of the rest of the country was enslaved, when the fervour for independence was dead elsewhere and when others submitted to the political, economic and cultural domination and exploitation, it was this region again which rose in revolt under the able leadership of Shivaji, the Great and unfurled the flag of independence. It asserted its right of self-determination and changed the course of history by establishing an independent empire.

About 200 years later, this very region gave birth to a portentous revolution. This time it was in the field of social, educational and economic emancipation. In the year 1848, when Marx and Engels came out with their famous communist manifesto with the clarion call to the work-

ers of the world to unite against their economic exploitation, in that very year and in this very town, Jyotiba Phule asserted the right to freedom of education and to freedom not only from economic but also social exploitation. It was a call for a more comprehensive revolution. Jyotiba founded successfully the first ever school for girls in this country in that year and ran it along with his wife Savitribai and as the nemesis would have it, the first girls to take their education in this school and in this country, were the daughters of the most downtrodden sections of the society — the Mahars and Mangs. But that was only one part of the revolution which he had started. His larger achievement was the banner of revolt he raised against fundamentalism and intellectual slavery. He was one of the foremost rationalists of this country and can truly be called as one of the founding fathers of the rationalist movement in this country. While others merely preached, he practised what he preached and attained Mahatmahood which he richly deserved. The seeds which he sowed led eventually to the moral, social, educational and economic liberation movements and to the emancipation of the hitherto suppressed and oppressed sections of the society. Dr. Ambedkar regarded him as his Guru. The philosophy which he preached made such incisive attacks on fundamentalism that even to-day — hundred years after his death — no word of abuse is spared by the reactionaries to malign him.

This region was also in the forefront of the freedom struggle against the British regime and gave to the country many a freedom fighter. One of the frontline national leaders—Lokmanya Ti-

lak — a fearless fighter, an ardent patriot and erudite scholar at the same time, was the product of this very town.

Equally important is the economic revolution ushered in by an uneducated peasant from the adjoining Ahmednagar district. Padmashree Vikhe-Patil started the first ever co-operative sugar factory in this country in 1960s and since then the co-operative movement has not looked back. It has spread with vigour, to all branches of agriculture and manufacturing and service industry and has brought about a metamorphosis in the economy of the respective sectors. By eliminating the middle-man ensuring economic price to the farmers, providing local employment, raising standard of living and changing the style of life of the millions, and at the same time by taking the medical, educational and cultural facilities to the hitherto neglected areas, it has virtually revolutionised the countryside.

I have dwelt on this legacy of this region at this length with a purpose. It is to remind you that you as students of this University are carrying with you additional glorious legacies of the past. They also dictate to you your duties and responsibilities to the society hereafter. The various liberating movements that this region gave birth to and fostered, cast on you an obligation, viz., to rise to the occasion and to meet the needs of the society as felt today. The great men who pioneered and participated in these movements read the signs of their time, understood their message, diagnosed correctly the root causes of the prevailing ailments of the society and came out with proper solutions to remove them. They were not all erudite scholars.

Some of them had not even formal education and those of them who received such education, did not depend upon it alone for playing their role in the service of the society. A sensitive mind, continuing self-education, constant interaction with the society, eagerness to learn lessons from the actual experience in life an ideology to follow, a definite goal to achieve and an undeterred determination to attain that goal, were the assets they possessed.

By all accounts, you are in a more favourable circumstance. You have received formal education. You are exposed to more information and knowledge through print and electronic media. You are living in a democratic regime and under a rule of law and in a society which enjoys freedom of conscience and of expression and association. You have speedy access to others by oral and written word and by communication and transport. Above all, you have more legacies of the past not only of this country but also of the world at large to draw upon. These are the external assets and you have them in abundance. But the external assets by themselves will not bring forth from you anything worthwhile unless you also possess internal assets which you have to develop yourself. You have to be sensitive to the developments in the society which adversely affect the common man. You must have a will to eliminate the forces which are responsible for these developments. You must have a goal to achieve and an ideology to follow. Above all, you must have determination and courage to pursue your goal whatever the difficulties. The education you receive in schools, colleges and universities cannot furnish you with these internal

qualities. It can only equip you with knowledge and make you capable of taking your own decision. It is ultimately for you to take the ultimate decision. Whether you will work only for your own interests or for the interests of the society as well, has to be decided by you. To the extent that you work for the society also, you redeem your debt which you owe to it in immense measure. If the education you receive does not even give you the necessary knowledge and make you capable of taking your own decision, the education has failed in its primary objective.

II

What does society expect from educated persons like you and me and what should we expect from the society in turn? The detailed answers to these questions will vary from time to time depending upon the conditions of the society in which we live. For the needs of society change with the changing times. But one thing is certain, as educated individuals, you have some distinct obligations, responsibilities and duties towards the society at all times and you are expected to discharge them. The society in turn is expected to give you opportunities to develop your potentialities to the fullest extent and utilise your knowledge, skills and talents for maximising the common good and happiness.

What are the distinct obligations which you carry with you as educated members of the society and why?

In the first instance, it must be remembered that those of you who have studied in educational institutions receiving grants of institutions run by the Government and public authorities, had

your education subsidised by the society throughout. The cost of your education has been borne by the other members of the society who comprise among others, the toiling millions in farms and factories. Today, we hear criticism of the educational institutions run on no-grant basis and on capitation fees. In principle, there is nothing wrong in imparting education by charging capitation fee so long as the fee charged is just enough to meet the cost of education. If Government or other public authorities have no funds and therefore, cannot afford to subsidise education beyond a certain limit, and if private institutions step in to meet the need of the aspiring students and organise imparting of education on self-help basis, such well-meaning venture has to be welcome. The only alternative to such endeavour is to deny the deserving students the education they need and are capable of pursuing. There is so much loss of talent to the society. The capitation fee institutions have earned a bad name because some of the unscrupulous managements are running them for profit. There are ways and ways of tackling this evil. The most effective way is to calculate fees on no-profit-no-loss and ensure that admissions are made to these institutions by the Government from among the applicants on strict merit basis and no student who is not recommended by the Government is admitted to these institutions. It is forgotten by those who are receiving education in aided and Government and semi-Government institutions that the fees which they pay do not cover even a fraction of the cost of education they receive. The entire balance of the fees is paid as capitation for them by the rest of the society. The point is that those of

you who have received education in aided and public institutions are all the more under an obligation to compensate the society by rendering your free services to it. But for the capitation fee paid by the society, for your education, you would not have been what you are today. This must be kept constantly in mind.

This does not mean that those who have paid the cost of their entire education in term of the capitation fee, have no obligation towards society. All educated persons have this obligation for the simple reason that in addition to the visible monetary costs, the society contributes to the education of all in myriad invisible ways. The land given for the construction of the educational institutions is sometimes free and sometimes at nominal price or rent, and sometimes acquired from others depriving them even of their sole means of livelihood. The institutions also receive free services of social workers who establish and run them by making several sacrifices. The institutions also get the benefit of the subsidies and exemptions from taxes and duties for importing equipment necessary for imparting education in some disciplines. Even the instruction which is imparted by the teachers in these institutions is on a considerably less salary than the teachers' experience, knowledge, talent and labour deserve. The instruction imparted by the teacher is not born in a vacuum. Its source is the accumulated and inherited knowledge of the society over the centuries. Every educated man, therefore, owes his debt to the society in one form or the other.

You should also not forget

that in this country, you are being provided with secondary, college and university education at the cost of millions who are starved of the primary education for want of sufficient funds. About 60 percent of our educational budget is spent on college and university education and 25 percent on secondary education. Only 15 percent of it is available for primary education. In terms of population, it means that less than 15 percent of the population gets 85 percent of the funds for its education while more than 85 percent of the population which is in need of elementary education gets only 15 percent of the funds. This is an imbalance unique only to this country. In the developed and other developing countries, higher education, i.e., education beyond the secondary stage and in some countries even the secondary education is not subsidised at all by the Governments and all those who want to receive higher education have to pay its cost in its entirety. Most of you would have been deprived of the college and university education, if you were to pay for it as in other countries, whatever the branch of your study. It is, therefore, also necessary for you to remember that you have been educated at the cost of millions of your brothers and sisters who are starved of even their elementary education.

III

Having received your education at the cost of the society and at the cost of the toiling and educationally starved millions, you cannot be excused if you neglect even your primary duties to the society as educated persons. What are these duties?

Education is imparted to you to enable you to think independ-

ently and to discriminate between right and wrong and between good and bad. You are supposed to develop a scientific attitude and a spirit of inquiry. You are not expected to accept blindly and unthinkingly everything that is said and written however revered the person or the book which says it. If you accept whatever is told to you without questioning it, there will be no difference between you and your illiterate brethren. The only difference between you and the illiterate will be that you accept what you are told in spite of your education and the illiterate does so without going through the portals of any educational institution. For the society, the resources spent on your education are just a waste. You must remember that the progress of mankind from stone age to the present space age has been made possible by those who questioned everything that was told to them and applied their mind independently to find out the truth or otherwise of what was told. They did not take anything for granted or accept anything just because it was handed down to them by traditions or on high authority. It must be remembered that however venerable the person or the writing, whatever is said or written is on the basis of the information available at the particular time. The frontiers of knowledge are ever expanding and are unencompassable. Hence whether it is Manu or Marx, whatever he has said has to be tested by us by applying our own mind independently and in the light of the latest knowledge available, and accept or reject it by testing it on the anvil of our own reasoning. This is the least duty which you owe to the society as its educated member. If you fail in it, you would have betrayed the society

of the trust it reposed while spending its valuable resources on educating you.

As educated persons, you are also expected to keenly and sympathetically observe the conditions of the society in which you live. You are expected to analyse them rationally and scientifically, without prejudices and biases and keeping the interests of the society above all other considerations whether of caste, community, region, religion, language or sex. As educated persons, you are expected to behave as a member of the larger brotherhood of mankind and follow the only religion — the religion of humanism and find out a solution to the problems of the society in conformity with the spirit of humanism.

Being educated, you are also expected to lead the rest of the society and take initiative for bringing about the desired social reforms and changes. The society in which we live is today suffering from various social diseases — ignorance, poverty, social and economic injustice and inequalities, casteism and communalism, corruption and criminality. It is, therefore, necessary to evolve a society where ignorance and poverty are banished, where casteism, communalism, corruption and criminal tendencies are eradicated and where social, political and economic justice is assured to all. For this purpose, we have to promote and foster positively the spirit of self-sacrifice, universal outlook, tolerance, understanding and compassion for all and to cultivate and insist upon certain basic moral values both in private and public life. If you are superficial, selfish, sectarian and narrow minded, you will fail in this duty. You will also disqualify yourself for being called an educated person.

To bring about the desired social change, you are also expected to adopt non-violent and the least disruptive means when all peaceful means of change are available. You have to remember that ends do not justify means. The means that you adopt must ensure a smooth change over with the least amount of conflict and friction. Adventurism does appeal to young minds and excites their hot blood. But adventurism does not serve any cause. If education has not taught you to be circumspect to control and regulate your urges and emotions, and refined your tastes and sentiments, it has failed to make you a cultured being. Far from being useful to the society, you may prove harmful to it. The knowledge that you have acquired may be put to destructive use.

You are also expected to give your best to the society, and to endeavour to excel in whatever field you are operating so as to be able to contribute the maximum that you can to the total good and happiness of the society as a whole. In this respect, as in all others, you are expected to act as a model citizen setting an example to others.

You have further to remember that in the form of education you have acquired an important instrument of social power. You can put it to good use as well as to bad use. You should resist temptations to exploit others by the use of your knowledge. Every time you decide to act, consider whether your action is in the interests of the society at large and whether it will promote or destroy them. As an educated member of the society, you have to act as a watch-dog of its interests, and save them from the abuse of power by others.

IV

You may ask me whether it is only a one-way traffic and whether you have only to give but not to expect anything from the society. You certainly have a right to expect from the society two things—one, an opportunity to develop your talents and to grow to your fullest height and to give your best to the society, and the other, to receive adequate recognition from the society for what you give to it. There is something wrong with the organisation and structure of the society which cannot or does not provide opportunity to all its members to develop their skills and talents fully and contribute their best to the society. The world has, however, yet to witness the emergence of a society where all its members have had a fair and an equal opportunity to develop their potentialities and take their rightful place in the society. The mechanism that Man has so far evolved to manage the economic affairs of the society, has always left the control of economic power in the hands of the few, whether as landlords, industrial entrepreneurs, financial managers or government bureaucrats. The concentration of economic power has created economic classes leading to social inequalities and unequal opportunities. In our country, the inequalities have become endemic thanks to the caste system based on birth, the ingrained philosophy of the past Karma visiting us in the present birth and the monopoly of learning by the few practised for hundreds of years. In addition, the economic and the social structure have accentuated the inequalities in this country. Knowledge is a key both to individual and social progress, and monopoly of knowledge is the

basis of all other monopolies. The class and the caste have always run parallel in our society for obvious reasons. As a result, the resources of the society and the opportunities to display skills and talents in all fields have concentrated in the hands of the few and the vast majority of men and women have always remained deprived of both the resources and the opportunities. It is the nation which suffers on account of such inequalities. On the one hand, it is deprived of the skills and talents of the vast majority of its populace and on the other, the monopoly in the hands of the few, leads to stagnation, degeneration, exploitation and perversion. It is for these reasons that from time to time there were revolts in this country and various social, religious and educational revolutionary movements were born. That is why again when the Constitution of India was framed, the framers of the Constitution took a special note of the debilitating features of the Indian society and not only provided for social, political and economic justice and equality for all but also for the measures to attain them. Special provisions for the advancement of women and weaker sections of the society including socially and educationally backward classes of citizens and scheduled castes and scheduled tribes are among the said thoughtful measures. They are designed to ensure that equal opportunity is available to all the members of the society and they are able to develop their capacities to the full extent and to contribute their might to the society. These provisions in our Constitution only recognise the truth that where in addition to economic inequalities, there are social inequalities, mere economic aid and assistance will not

(Contd. on page 22)

STUDENT ENROLME

All India Growth of Student Enrolment (1972-73 to 1991-92)

Year	Total Enrolment	Increase over the preceding year	Percentage increase
1972-73	21,68,107	1,03,066	5.0
1973-74	22,34,385	66,278	3.1
1974-75	23,66,541	1,32,156	5.9
1975-76	24,26,109	59,568	2.5
1976-77	24,31,563	5,454	0.2
1977-78	25,64,972	1,33,409	5.5
1978-79	26,18,228	53,256	2.1
1979-80	26,48,579	30,351	1.2
1980-81	27,52,437	1,03,858	3.9
1981-82	29,52,066	1,99,629	7.3
1982-83	31,33,093	1,81,027	6.1
1983-84	33,07,649	1,74,556	5.6
1984-85	34,04,096	96,447	2.9
1985-86	36,05,029	2,00,933	5.9
1986-87	37,54,409	1,49,380	4.1
1987-88	39,10,828	1,56,419	4.2
1988-89	40,74,676	1,63,848	4.2
1989-90	42,46,878	1,72,202	4.1
1990-91	44,25,247	1,78,369	4.2
1991-92	46,11,107	1,85,860	4.2

N INDIAN UNIVERSITIES

Stage-wise Enrolment 1991-92

Stage	University Depts/ University Colleges	Affiliated Colleges	Total	%in affiliated colleges			
				1991-92	1990-91	1989-90	1988-89
Graduate	4,95,611	35,66,774	40,62,385	87.8	87.8	87.8	87.8
Postgraduate	1,90,554	2,47,501	4,38,055	56.5	56.5	56.5	56.5
Research	43,115	7,608	50,723	15.0	15.0	15.0	15.0
Diploma/ Certificate	33,929	26,015	59,944	43.4	43.4	43.4	43.4
Total	7,63,209	38,47,898	46,11,107	83.4	83.4	83.4	83.4

Faculty-wise Enrolment 1987-88 to 1991-92

Faculty	1987-88		1988-89		1989-90		1990-91		1991-92	
	Enrolment	% of total	Enrolment	% of total	Enrolment	% of total	Enrolment	% of total	Enrolment	% of total
Arts (Incl. oriental learning)	15,81,542	40.4	16,45,414	40.4	17,17,437	40.4	17,89,480	40.4	18,65,605	40.4
Science	7,68,022	19.6	8,00,266	19.6	8,34,087	19.6	8,69,119	19.6	9,03,776	19.6
Commerce	8,57,971	21.9	8,93,984	21.9	9,31,765	21.9	9,69,882	21.9	10,09,832	21.9
Education	89,949	2.3	93,718	2.3	95,979	2.3	99,613	2.3	1,06,055	2.3
Engineering/ Technology	1,92,148	4.9	2,01,289	4.9	2,09,371	4.9	2,16,837	4.9	2,25,944	4.9
Medicine	1,31,013	3.4	1,37,257	3.4	1,42,270	3.4	1,50,458	3.4	1,56,777	3.4
Agriculture	43,410	1.1	44,007	1.1	45,229	1.1	46,908	1.1	48,908	1.1
Veterinary Science	10,168	0.3	10,594	0.3	10,957	0.3	11,063	0.3	11,550	0.3
Law	2,05,318	5.3	2,13,920	5.3	2,22,961	5.3	2,34,538	5.3	2,44,388	5.3
Others	31,287	0.8	34,227	0.8	36,822	0.8	37,349	0.8	38,272	0.8
Total	39,10,828	100.00	40,74,676	100.0	42,46,878	100.0	44,25,247	100.0	46,11,107	100.0

Source : University Grants Commission Annual Report 1991-92.

enable the socially suppressed to rise to the level of others. This is also recognised in the United States where similar special provisions including those of reservations in educational institutions and employment are made for the Negroes.

But those provisions for the socially backward are only a step in the direction of the establishment of an equitable society. That step by itself will not create a just and equitable society either for the socially disadvantaged or for others. Both the pro and the anti-reservationists fail to realise that even if all the seats in the educational institutions and all the jobs available in the public sector are reserved or dereserved, they would not be sufficient to meet the needs of more than an infinitesimal section of the needy from either of the sections. Unfortunately, both the sections by concentrating on the tiny number of seats and jobs reserved, as if they are the end all, are doing great injustice to themselves and the society. They are forgetting their primary and larger goal of creating a society, where every member of the society, whatever his caste and community will get education according to his aptitudes and talents and a job suitable to his qualifications. In such a society there will be no need for reservation of any kind in any field. The cause of the present enterneccine war between the needy sections of the society is the inadequate number of educational seats and jobs. We have to strike at the root and organise a society where there will be education and employment for every aspirant.

The task of creating such a society belongs to every individual and every institution. As edu-

cated members of the society, the responsibility of creating such society devolves on you more heavily. As enlightened members of the society, you have to take the lead and show the way to others. As recipients of social power which is what education is, you are expected to wield it not only for your individual advancement but also for the emancipation of all who are entrapped in and enslaved by the present social and economic structure. Fulfilment of your expectations from the society thus lies in your own hands. The society is not an amorphous entity. It consists of men and women like you and me. Society becomes what its members make of it. Who are more qualified to make the society just and equitable than its educated members like you? You must realise that you are living in a society which is organised on an irrational and inequitable basis. Its resources are concentrated in a few hands. They are using them essentially for their profits and not for service of the society. The gains to the society are incidental. They are not aimed at. You cannot expect justice in such society. You will not get anything on a platter. you have to contribute your efforts first to create a just society. That is the kind of society our Constitution also envisages. You will thus appreciate that the fulfilment of your expectations

from the society also depends upon your own efforts. All of you cannot expect in the present inequitable structure to get opportunity, much less an equal opportunity to develop your talents and display them. You will have to endeavour to change the present social and economic structure for that purpose.

Our fore-fathers answered the call of the times in which they lived. More recently many of our predecessors sacrificed everything they had including their lives for gaining political independence from the alien regime. Today, the nation calls upon you to build a new social order where everyone whatever his caste, community, region or religion, will live without want and fear, without exploitation and discrimination, and with self-respect and dignity, where, all will have an opportunity to participate equally in the affairs of the society and contribute their might to the common good and happiness. You have to answer this call of the nation. That is the task assigned to you by the history. You have to rise to the occasion and accept it as a challenge. If you succeed, you will go down in history as builders of the new society and a new nation which then alone will be in a position to take its prideful place in the comity of nations.

Excerpts from the Report on Achievements, Plans and Programmes

By

Prof. S.C. Gupte, Vice-Chancellor

At the outset, I have the privilege to announce that His Excellency, Dr. Shankar Dayal

Sharma, the President of India, has kindly donated a sum of Rs. 18, 000 to the University for

instituting a Gold Medal to be awarded to a student adjudged the best for general proficiency, including character, conduct and excellence in academic performance, extra-curricular activities and social service. This Medal will be named as "The President of India Dr. Shankar Dayal Sharma Gold Medal".

In addition the University has received fourteen donations totaling Rs. 5.5 lakhs during the last sixth months.

University of Poona is one of the leading universities of the State with 188 Affiliated Colleges, more than 100 Recognised Institutions for research and specialised studies and 36 Post-graduate Departments of the University located on the campus. We have in all more than 1,78,000 students registered in all these institutions and departments out of which about 5,000 are located on the campus of the University. The University through its Colleges, Institutions and Departments conducts 280 different degree and diploma courses. During the last one year 173 students obtained their Ph. D. degrees in various disciplines. We have a large number of students from over 50 foreign countries who are admitted to various undergraduate and postgraduate courses of the University.

The Jayakar Library also has received a donation of 4,000 books in German language from the Poona University German Association (PUGA) and a grant of Rs. 20,000/- from the National Archives, Govt. of India for preservation of manuscripts.

The University Grants Commission has now given us permission to use the salary compo-

nent of the VII Plan grants towards building construction, enrichment of library and for additional equipment and infrastructural facilities to the tune of Rs. 1.5 crores.

Our collaborative programmes with a number of overseas universities have also brought rich academic dividends to various departments. We have recently established an International Centre to coordinate all such programmes. In September 1993 the first group of students from the University of Calgary, Canada, came to our University for one semester course on South Asian History and Culture. We have also signed a Memorandum of Understanding (MoU) with the Tehran University of Iran for exchange of faculty, and for academic co-operation in Science, Technology and Humanities. Similarly, an MoU has been signed with the University of Central Queensland, Australia, for collaboration in the areas of Linguistics, Cultural, Social Sciences. Negotiations are also in the final stage with prestigious institutions like London School of Economics and Political Science, U.K., Cornell University, U.S.A., University of Warwick and Louisiana State University, U.S.A. Our collaborative programmes with the Bremen University, Germany, are further strengthened after completion of ten years of joint research in various fields. The University Grants Commission had entrusted to the University of Poona the responsibility of organising an Indo-Italian Workshop in April 1993 to explore the possibilities and to identify areas of interaction between universities of the two countries.

We have also signed an MoU with the European University

Institute, Florence in Italy, covering a period of five years to facilitate collaborations in teaching and research and to establish a Resource Centre for European Studies. The EUI has granted a fellowship to a Ph.D. student from our University for carrying out research at their Institute for one year and has agreed to continue this arrangement for the next five years.

It is also proposed to institute a Chair in European Studies for which support is likely to be received from the European Commission, Brussels and from the European University Institute, Florence.

We are also having collaborative programmes with the Moscow State University in Russia and the Nagoya University in Japan.

General B.C. Joshi, the Chief of the Army Staff, visited the University of Poona on 8 November, 1993 and had a meeting with the Deans of faculties and the Vice-Chancellor covering wide ranging affiliation programmes of the Armed Forces training institutions with the University of Poona and establishment of new institutions for training of the Indian Army personnel in the area of technology. The discussions were extremely fruitful and are now in an advanced stage of development.

In appreciation of the status and role played by the Poona University's Post-Graduate Department of Defence and Strategic Studies, the Chief of the Army Staff was pleased to offer an endowment of Rupees fifteen lakhs for instituting the Chair of Policy Studies at the University of Poona.

We are aware that parts of Maharashtra and Karnataka were devastated by a terrible earthquake on 30th September, 1993, causing immense loss of life and property. I am glad to say that our teaching and administrative staff rose to the occasion and have contributed one day's salary totalling Rs. two lakhs to the Chief Minister's Relief Fund. Further, the University has contributed an additional sum of Rs. five lakhs through a decision

taken by the Executive Council from its own funds by cutting expenditure on certain items.

Let me share with you some information on our plans to computerize the entire administration of the University for which a project has been prepared by the Computer Maintenance Corporation of India, a Government of India Undertaking. A phased programme has been prepared. I am glad to mention that we have

already completed the computerization of the Examination and Finance branches by spending an amount of Rs. 1.17 crores from our own funds. However, the total cost of this project will come to the tune of Rs. four crores. We have therefore approached the UGC for a special grant of Rs. 2.5 crores for this project, specially in view of the fact that this is the first and the only such project undertaken by any University in our country.

CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be contacted
February 10-11, 1994	National Symposium on Advances in Veterinary Research	Theme : Animal Health and Production	Indian Association for the Advancement of Veterinary Research, Bareilly (U.P.)	Dr. T.N. Jaiswal, Head, Division of Standardisation, Indian Veterinary Research Institute, Izatnagar-243 122
February 19-20, 1994	National Convention on Automation of Libraries in Higher Education and Research Institutes	To provide a forum to discuss issues involved in library automation and networking of libraries	INFLIBNET Programme of UGC	Shri S.R. Thakore, Convenor, Local Organising Committee, CALIBER-94, INFLIBNET Programme, P.B. No. 4116, Navrangpura, Ahmedabad-380 009
May 8-12, 1994	1994 Pacific Conference on Distance Education	To share a Pacific perspective of distance education for present and future needs	The New Zealand Correspondence School	Mr. Lorraine Pells, The New Zealand Correspondence School, Private Bag, Wellington, New Zealand
June 1-3, 1994	Seventh Annual Conference of the All India Association for Educational Research	Theme : Innovations in Education	Foundations of Education, Jamia Millia Islamia	Dr (Mrs) G.M. Miyan, Reader, Department of Foundations of Education Jamia Millia Islamia, New Delhi-110025

SVU Introduces Semester System

Sri Venkateswara University, Tirupati, has decided to introduce semester system for post-graduate courses from the academic year 1994-95. A decision to this effect is reported to have been taken at a recent meeting of the Chairman, Board of Studies, and heads of the departments of various PG courses. The meeting also finalised the syllabi under the new pattern. The PG courses will consist of four semesters, two in each year.

Each semester will have a minimum of 90 working (teaching) days including 10 days of preparation. Semester examinations should be completed in a period of one week to ten days immediately after the completion of the semester classes. Each semester will have a maximum of four courses. The semester-wise time tables for each department should be prepared in advance and given to students at the time of admissions. The time tables should indicate the class tests and seminar periods at the appropriate points.

This helps students plan their studies. At least two class tests should be held. All the tests are compulsory. Absence at any one test for whatever reason is an absence and the student will be given 'zero' marks for the test. The corrected answer scripts should be given to the students at the next class period by the teacher concerned. The students should have the freedom to get clarifications on evaluation and get their scripts corrected in the classes itself.

The total marks for all the four semesters examinations will be 1,600 with 400 marks for each semester. The subject-wise distribution of theory and practical will be in 3:1 ratio. For arts subjects, it will be in 4:1 ratio. Internal assessment marks will be 20 per cent of the total marks of each paper/practical.

Panel for Science & Technology

The Government of India has set up a Cabinet Committee on Science and Technology (CCST) under the chairmanship of the Prime Minister to provide policy directives and approve integrated programmes. The formation of the CCST was announced in Jaipur recently by the Secretary of the Department of Science and Technology (DST), Dr P Rama Rao, at a function where he released a report of the task force on recommendations of the 80th Indian Science Congress held in Goa in 1993.

The cabinet committee would include ministers of the Human Resource Development (HRD), Agriculture, Finance and Defence, besides the Deputy Chairman of the Planning Commission, Ministers of State of Industry, Rural Development and science and technology.

The CCST would decide on policies and programmes key areas in industry, agriculture, and other economic sectors, with emphasis on joint action by various departments.

The Government has also set

up an empowered committee of secretaries on science and technology under the chairmanship of the Cabinet Secretary, with secretaries of Agriculture, Expenditure, Atomic Energy, Space, Electronics, Ocean Development and Biotechnology. It would also include secretaries of the Department of Scientific and Industrial Research, the Defence Research and Development Organisation (DRDO), Department of Agricultural Research and Extension (DARE), Planning Commission and DST, as its members.

Based on recommendations of the 80th session of the Indian Science Congress in Goa, the Department of Space has launched a project called the "Integrated Mission for Sustainable Development" (IMSD) covering 158 districts to promote sustainable development through optimal use of land and water resources.

The long-term objective of the project is to provide site-specific solutions, taking into account the land capability, socio-economic conditions in an area, and availability of recent local technologies.

The Department of Space has also initiated programme on geosphere-biosphere studies to understand better the land-ocean atmospheric processes as influenced by the biosphere.

The task force report says that the Indian Council of Medical Research has set up an expert group to formulate guidelines on various claims being made on the efficacy of indigenous medicines in HIV infection and AIDS.

Chemists Meet at Warangal

'There is a need for perfect co-ordination and sustained effort in strengthening indigenous research in order to meet the challenges posed by trade treaties under the General Agreement on Tariff and Trade (GATT),' said prof. C.K. Kokate, Acting President of Pharmacy Council of India and Co-ordinating Officer of UGC Unit of Kakatiya University. He was delivering the valedictory address at the three-day XII Annual Conference of Indian Council of Chemists hosted by the Kakatiya University coinciding with the silver jubilee celebrations of the Chemistry Department, in Warangal recently.

Prof. Kokate said that the Uruguay Round of Trade which concluded recently under the auspices of GATT shall have an impact on future discoveries of drugs and chemicals and added that the scientists should work hard to develop indigenous technology. The governmental agencies too should come forward in a big way to help the scientists in a positive manner to inspire them. This alone would help us combat the challenges posed by the GATT, he felt.

Prof. Kokate complimented the chemical scientists and the bulk-drug manufacturers for their contribution in the post-independence era and appealed to them to orient their researches for the well-being of the society.

Prof. V. Bhaskara Rao, Member, Board of Management and Principal of University College, who presided, called for an ethical dimension to the scientific research which alone would ensure pollution-free environment and exploitation-free social set-up.

The conference after a detailed examination of the papers presented by the scientists below the age of 35 years, selected Dr. A. Venkataraman (Gulbarga University), Dr. Rao Prakash Kumar (Central College, Bangalore), Dr. G.S. Gugali (University of Poona), Dr. V. Padmavathi (SV University) and Dr. V.V. Suresh Babu (Central College, Bangalore) and honoured them with 'Young Scientist Award.'

About 300 delegates representing universities and research organisations from all over the country attended the conference.

Cost-effectiveness of Distance Education

The Asian Association of Open Universities Conference on "Economics of Distance Education" was held in Hong Kong. The Conference was attended by Presidents, Vice-Chancellors and Heads of Distance Education Institutions from all over the world. Prof. S. Bashiruddin, Vice-Chancellor, attended the conference on behalf of the Dr. B.R. Ambedkar Open University.

Cost effectiveness of Open University systems and the Distance mode of teaching have been increasingly recognised by the Open Universities in Japan, China, Thailand, Korea and other developing countries. The conference discussed among other things the cost-benefit analysis of distance education, and technology adaption to suit the needs of the closing decade of this century. It was felt at the conference that distance education system, by utilising the Radio and TV and interactive learning systems, was the most suitable one to change the unequal educational profile in developing countries.

The Vice-Chancellor also visited the Sukhothai Open Univer-

sity of Thailand and the Asian Institute of Technology at Bangkok to observe the set up there. He found that the open university systems in Canada, Australia, Korea, Japan and Hong Kong were developed to a considerable extent and India could also utilise its radio and TV Channels more extensively for this purpose both for literacy and functional skill-oriented courses for the benefit of employable graduates.

Prof. S. Bashiruddin, also visited the Chinese Satellite Open University. He observed that the Chinese Satellite Radio and T.V. Open University System had brought to a focus the need for vocationalisation of courses and the importance of the open learning system in effecting this change at a rapid pace. Along with the Central Production unit at Beijing, the regional and local stations of the Open University also had their own decentralised lesson production facilities relevant to the local concerns and the situation, the Vice-Chancellor said.

Prof. Bashiruddin was impressed by the emphasis China placed on Mathematics, Science, and Vocational Courses, as also language lessons in English, exploiting the audio-visual medium for the benefit of all age groups. He said that the Chinese Satellite University catered to a population of 20 crore learners with 44 provincial radio and TV institutions, 575 regional TV Universities and over 1500 country level TV network. These made the Chinese Satellite Open University the largest Open University system in the world, he observed.

On his return, Prof. Bashiruddin addressed the Faculty and observed that cost-effective-

ness and economic analysis along with safeguarding the quality at every level was a recurrent theme of the Conference on Economics of Distance Education. In this context, he outlined that this norm could also be applied to the Open University system in India.

Social Science Research on Reproductive Health

In collaboration with the Indian Council of Medical Research and the Ford Foundation, the Task Force for Social Science Research on Reproductive Health of the UNDP/UNFPA/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction proposes to hold a training workshop for research on reproductive health in South Asia in late September 1994.

The objectives of the workshop are (i) to familiarise social science researchers with major issues in research on reproductive health, appropriate methodologies and designs for social science research in these areas; and (ii) to enable these researchers to develop research projects and proposals in the area of reproductive health in South Asia. The intention is to bring together 20-30 researchers actively engaged in the field.

Those interested in participating should submit a concept paper on any of the various social, cultural, and behavioural dimensions of reproductive health in South Asia, on which they would like to undertake research. Applications for the workshop should include (i) a brief concept paper describing (a) basic research ideas, research questions and hypotheses; and (b) the design of the project, including the site, type of data to be collected or used; (ii) a curriculum vitae giving details of professional training, relevant employment

experience, publications and current affiliations; and (iii) a copy of a recent publication, if possible.

The applications should be sent by 28 February 1994 to Dr. B.N. Saxena, Senior Deputy Director-General, Indian Council of Medical Research, Ansari Nagar, New Delhi-110029, with a copy to Dr. Lim Teong Wah, Medical Research Officer, WHO Regional Office, Indraprastha Estate, Mahatma Gandhi Road, New Delhi-110002.

INSA Awards 1994

The Indian National Science Academy (INSA) has announced the winners of medals and prizes for 1994. The Indira Gandhi Prize for Popularisation of Science (1994) will go to Dr. G. Venkataraman and Mr. Arupratan Bhattacharya. Dr. Venkataraman, Director, Anurag, Hyderabad, has been chosen for his definitive scientific biography of Sir C.V. Raman. Besides, he has succeeded in conveying difficult concepts in functional areas of physics in a simple and lucid manner to the common reader. Mr. Bhattacharya, a resident of Calcutta, will be given the prize for his popular science writings in Bengali in a wide range of subjects as evident from his 40 published books. He has also written a number of articles in periodicals.

The Aryabhata Medal (1994) will be awarded to Prof. V Ramalingaswami, Professor, Emeritus, All India Institute of Medical Sciences, New Delhi, for his contribution to the study of the syndrome of protein-energy malnutrition in young and growing children.

The Meghnad Saha Medal (1994) will be awarded to Professor M.M. Sharma, Director, Department of Chemical Technology, Bombay University, for his contribution on multi-phase reac-

tions and reactors which has brought out new strategies in intensifying rates of reactions or making reactions more selective.

Promoting Quality in Distance Education

Prof. R.V.R. Chandrasekhara Rao, Director, Asian Programmes and Training, Commonwealth of Learning (COL), Vancouver, Canada, while addressing the members of the Dr. B.R. Ambedkar Open University Academic Forum outlined the initiatives taken by the COL for promoting quality in distance education in developing countries. He announced that COL will install an interactive audio-conferencing equipment at Dr. B.R. Ambedkar Open University which would enable the university to have two-way audio-conferencing facility with all the open universities in India.

Prof. S. Bashiruddin, Vice-Chancellor, Dr. B.R. Ambedkar Open University, who presided, listed the various developmental programmes undertaken by the university with cost effectiveness and quality as the objectives. A number of faculty members of the university participated in the discussion that followed.

ICMR Awards and Prizes 1993

The Indian Council of Medical Research invites nominations/applications from Indian scientists for its various prizes and awards in the field of Biomedical sciences. Application forms and other relevant information can be obtained from the Director-General, Indian Council of Medical Research (Indo-foreign Cell), Ansari Nagar, New Delhi 110029.

Nominations and completed applications should reach Director-General's office on or before 28th February, 1994.

News from Agricultural Universities

More Funds for Farm Research

The Parliamentary Standing Committee on Agriculture is reported to have recommended that the investment in agricultural research should be targeted to reach a graded level of one per cent of the total agricultural GDP from the current level of 0.32 per cent.

In its report on the Department of Agricultural Research and Education, the Committee has said that country's investment in agricultural research had been stagnating at 0.32 per cent of total agricultural GDP for the last two decades. This did not compare favourably with 0.56 per cent investment made by 51 developing countries and two per cent by the developed countries, the report commented.

The Committee, chaired by Lok Sabha Janata Dal member Mr. Nitish Kumar, said in the report that vigorous efforts were required to extend research and technology developed by the ICAR to the farms in the remaining years of the Eighth Plan. It noted with concern that the present time period of five to seven years for transferring technologies from labs to the farm sector was too long and led to obsolescence.

Expressing concern over the fact that only 11 per cent of the quality seeds requirements were met today the Committee called for stepping up their production and improving distribution networks in the regions which have vast potential for development but could not develop for short-

age of seeds and other necessary input.

It asked the ICAR to promote the concept of integrated application of organic and inorganic fertilisers to counter the side-effect of unscientific and excessive application of inorganic fertilisers.

Recommending development of suitable post-harvest technologies for processing, cooling, storage and transport to motivate farmers to take agriculture as a commercial profession, the Committee underlined the need to improve the functioning of the State Agricultural Universities some of which have been diverting funds allocated for KVKs to some other areas.

Research at PAU to be Updated

"The teaching and research programme of Punjab Agricultural University will be modernised keeping in view the globalisation of research process in the world," said Dr Amarjit Singh Khehra, the new Vice-Chancellor of the university while addressing the faculty and staff. "We have to compete at the international level for our existence as multinational companies are going to compete with our programmes," he said adding that the country had to avoid dependence on multinational companies.

Dr Khehra assured the faculty that all decisions would be taken on merit and the working would be made more efficient through persuasion and motivation. He urged researchers to work hard so as the university could maintain its position as the leading institution of the world.

News from UGC

Countrywide Classroom Programme

Between 18th January to 24th January, 1994 the following schedule of telecast on higher education through INSAT-ID under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

18.1.94

"Sun and Salt"

"Hypertension-A Silent Killer"

19.1.94

"Journey of Tea from Plucking to Packing"

"Man and Environment"

"Sacred Grove: The Rare Island of Greenary"

20.1.94

"Earthquakes"

"Mapping the Ocean Floor"

"Learning a Foreign Language-III"

21.1.94

"Bhatnagar Laureates — An Interview with Dr. T.J. Pandeyan"

"The Heavenly Handshake-III"	"Palatial Puzzles : Excavation at Lal Kot"
"City Sewage Treatment"	20.1.94
<u>22.1.94</u>	"Data Structure-IV : Tree"
"Question Forum"	"Speeches on Speech-III"
"The Week Ahead"	"The Sight of Sounds"
<u>23.1.94</u>	21.1.94
No Telecast	"Environment Education : In and Across the Borders-VI"
<u>24.1.94</u>	"Starfinder-X. Fusion Energy"
"Home Lab in Electricity and Magnetism"	"The Week Ahead"
"Human Resource Development -IV Placement"	22.1.94
"Rajasthan Agriculture on Move 'Food Grains'"	No Telecast
<u>Ind Transmission</u>	23.1.94
4.00 p.m. to 5.00 p.m.	No Telecast
<u>18.1.94</u>	24.1.94
No Telecast	"Exotic Nuclei"
<u>19.1.94</u>	"Chilli"
"Flow Visualisation"	"Resource Scheduling-I Hungarian Method"
"Soilless Farming and Biological Control"	

News from Abroad

ICSU Lectureships/Professorship Programme

The International Council of Scientific Unions (ICSU), in cooperation with the Third World Academy of Sciences, UN Educational, Scientific and Cultural Organization, Commonwealth Science Council, and Earth Council invites nominations for Lectureships/Professorships in Science and Sustainable Development.

The objective of the Lecture-ship Programme is to provide those associated with scientific and other appropriate institutions in developing countries with the opportunity to establish

and enhance collaboration with colleagues in all fields of science, technology and key areas of environment and development. Within this Programme, prospective hosting institutions can invite eminent experts in science, technology and sustainable development, to lecture and hold discussions in their countries.

Institutions wishing to invite a lecturer under this Programme are required to apply on the prescribed form providing information about the subject area to be addressed and, if available, the name of person(s) who might be invited to lecture.

The deadline for submission of request forms for lectureships are 30 June for lectures to take place between January and June of the following year; and 31 December for lectures to take place between July and December of the following year.

The objective of the Visiting Professorships Scheme is to provide institutions and research groups in developing countries, especially those that lack outside contacts, with the opportunity of establishing long-term links with world leaders in science and technology and key areas of environment and development.

Under this part of the Programme, a number of international experts will be offered visiting professorship appointments at institutions in the Third World. The appointment is normally for a period of five years, during which the appointed professor will be expected to visit the host institution at least three times for a minimum stay of one month each time.

During each visit the visiting professor will be expected to interact strongly with the staff at the host institution with the aim of strengthening their existing activities and/or assisting them to establish new lines of research. The visiting professor may also be requested to deliver a series of topical lectures and seminars to research students.

Institutions in developing countries wishing to be considered for this Programme may send in their requests on prescribed form. Information about the subject areas of current interest to the host scientists should be provided, and, if available, the name of person(s) who might be considered for the appointment.

Only persons who have attained international recognition in their fields of science of environment and development will be considered for appointment under this scheme.

Deadline for receipt of applications for the first Professorship Appointments is 1 April 1994.

Application forms for Lectureships and Professorships in Science and Sustainable Development can be obtained from and submitted duly filled in to The Third World Academy of Sciences (TWAS), Strada Costiera 11, P.O.Box 586, 34126 Trieste, Italy.

World Education Report

"Educational disparities within the South represent the basic obstacle to overcoming what remains of the knowledge gap between the North and South", is the fundamental observation brought out in the recently released World Education Report published by UNESCO.

The report says that these disparities are a disturbing signal of the profound changes in global economic, social and cultural relations. While some, developing countries are in many ways catching up with the developed world, others are sliding backwards. However, the education of the number of illiterates in the world observed three years ago has continued to be strengthened. "This reduction" The Director General, Mr. Federico Mayor, who released the report in Paris, said, "is a great hope." It shows the positive results of the great "alliance" established in Jomtien, Thailand, in 1990. Fi-

nancial contributions to education by the large international funding organizations and agencies — such as the World Bank and the regional banks have also increased. The reduction also demonstrates political will of the countries who have realised that the education of their citizens is "the only door leading to endogenous development."

The report, however, pointed out that in addition to Africa, the other problematic areas are South Asia and the Arab States, where adult illiteracy totals continue to rise. By far the fastest growth in the illiteracy rate is in sub-Saharan Africa, where only nine of the 39 countries for which UNESCO has data recorded a decline in adult illiteracy levels during the 1980s. In many of these countries, the situation of school-age children is catastrophic. The example of Niger, says the report, is especially striking. The estimated "school life expectancy" — that is, the period a five-year old child can be expected to remain in school — is 2.1 years. If the length of the school year is included, it drops to 306 days for a boy and 204 for a girl; and if availability of text books is considered the figure drops to between 60 and 80 days of effective schooling in her life time.

The fact that 65% of adult illiterates in the world are women is seen as grave and continuing problem for the women themselves, for their families and for succeeding generations. The report emphasises the vital role that women play in agriculture and the negative impact of female illiteracy on population and health.

Economic structural adjustment programmes frequently have resulted in pressures to save on education, including imposing or raising education fees, and, for teachers, reducing pay, extending working hours or lowering minimum entry standards, the report says. This has posed special difficulties for countries — again, the emphasis is on sub-Saharan Africa — where teacher pupil ratios already were between 1:40 and 1:60, and where most children did not have textbooks even before the cutbacks.

In the area of research and development (R & D), the report tells us that the number of R&D scientists in sub-Saharan Africa is barely more than the number employed by a single large corporation in the developing world.

The report also discusses the problems of education in the developed countries, drawing attention to the desperate situation in some parts of the state school system, where city conditions may include drugs, violence, gangs, policemen in hallways, intimidated teachers and terrified pupils. "It used to be thought that these problems were peculiar to North America," the report states. "But the symptoms have appeared in Europe and elsewhere".

Protective Helmets for Sportspersons

Protective helmets for specific sports have become available in Australia as a result of a two-year research program by a professional footballer/student from the Victoria University of Technology.

Unlike the US, Canada and

some European countries where ice hockey players, footballers and baseballers traditionally wear protective headwear, most Australian sports participants, other than cyclists, cricket batsmen and amateur boxers, disdain the use of helmets.

The research by Mr. Free, a Bachelor of Applied Science (Physical Education), has led to the design of protective helmets specifically for sports such as international taekwondo and lacrosse, and for children with special needs.

Universal Force Microscope

An instrument able to look into the invisible world of molecular interaction has been developed by scientists at the Australian National University (ANU). Called a Universal Force Microscope (UFM), it can measure the forces involved in a contact between different types of materials and liquids, a capability which can bring enormous benefits to a wide range of industrial processes.

The UFM has grown from another ANU invention, the Surface Forces Apparatus (SFA), which is widely used in universities and commercial operations around the world.

However, unlike the SFA, which requires a smooth, stable surface as a substrate on which the material to be examined is layered, the UFM can work on virtually any surface. Its only requirements are surfaces large enough, about one to two millimetres, and smooth compared with the colloidal forces under

investigation.

Using the piezo electric effect, which allows mechanical properties to be converted to electrical qualities, the UFM is able to measure forces between two surfaces at extremely high sub-atomic distances.

ANU's Dr. John Parker said, "The force sensor technique provides us with a signal which is proportionate to the force, which means we can now make measurements in an entirely different way. We can take the electrical signal, put it into a computer and make all the measurements entirely automatically. This allows us to look at things that were impossible to see before."

Staff and Student Development in Multicultural Setting

The Thirteenth International Seminar on Staff and Educational Development (ISSED) will be held on 15-18 June 1994 at Cape Town, South Africa.

The theme of the conference is Staff and Student Development in a Multicultural Setting. The meeting will be preceded by the annual conference of SAARDHE (the South African Association for Research and Development in HE), on 13-15 June, 1994 on the theme "Higher Education : The State of the Art"

The conference will focus on the following topics : A. Staff/Faculty Development Issues : (1) Developing Staff Developers, (2) Developing Strategies for Teaching Large Groups, (3) Teaching as the Management of Learning, and (4) Acknowledging Different

Student Learning Styles. B. Quality Issues : (1) Identifying and Assessing Quality in Teaching and Learning, (2) Defining Culturally Neutral Performance Indicators, (3) The Efficacy of Educational Research, (4) Quality Enhancement and CQI, and (5) Finding the Funding of Quality Higher Education. C. Student Development Issues : (1) Improving Student Preparedness for Higher Education, (2) Widening Access to Higher Ed., (3) Developing Student Independence — "Enterprising Students", and (4) Student Leadership Development. D. Multicultural Issues : (1) Designing Multicultural Curricula, (2) Meeting Different Cultural Aspirations for Higher Education, (3) The Role of Higher Education in Nation-Building, (4) Managing Multicultural Institutions, and (5) The Role of Affirmative Action.

Further information may be had from Dr. Chris deWinter Hebron, H+E Associates, 12a Church Street, Stiffkey, Norfolk NR23 1QJ, England.

We Congratulate ...

Dr Amarjit Singh Khehra
who has taken over as the
Vice-Chancellor of the
Punjab Agricultural University.

BOOK REVIEW

Considered Opinions

S. Abdul Kareem*

Indian Colleges Forum. Issues in Development of Colleges : Quality and Resource Aspects. Delhi, Society for Education and Economic Development, 1993. Pp. 130. Rs 195.00.

The Society for Education and Economic Development (SEED) has helped the sprouting up of the new sapling. The Indian College Forum (ICF) is the offshoot. Being a consortium of colleges and universities, of mainly the colleges, it fulfils a cherished ideal of a common all India platform to sort out issues in development. The first meeting of the said Forum has resulted in the present volume, thanks to the stewardship of the founder-president of the SEED, Dr. G.D. Sharma, being a reflection of the considered opinions of the 70 Principals.

The key functionary of a vital link in higher education, the Principal has all along been taken for granted. Representing the biggest core sector of institutional aggregations amounting to 7200, the universities and the colleges are bursting at the seams with a student population 4.5 millions strong. The first institutions to appear on the national horizon under the aegis of the British, emerged as, quality institutions, but the outcrop that sprang up in the wake of Independence and its development decades brought in the deficiencies and inadequacies resulting in the dilution of standards.

The NPE-1986 and the various modifications suggested by the two review committees have more than established the nexus between education and development and education assumed the mantle of Human Resource Development. With about 83% of the total students of higher education sector, the colleges face the Herculean task equipping the target group, as it were sanitising, sensitising, nay conscientising them. Looking to the accumulation of the deadened souls and dirt, one need clean these Aegean stables.

The book is planned in two main parts, the first outlining the Issues and Recommendations that emerged after the deliberations for two days. There are sound suggestions on curriculum development, effective teaching methodologies besides project assignments, group discussion of case studies and role-playing. Those pertaining to examination reform, besides emphasising objectivity and reliability with the minimum inter-examiner variability in marking using suitable scaling procedures, need the desired attention more so when the consortium recommends that each institution will be required to develop the college level evaluating system.

The problems of Staff Selection and Development have been viewed in isolation as financial

sanctions and concurrences are invariably linked up with these. The component of state finance, covering all colleges — governmental including the constituent, private-aided and private non-aided — present a bleak picture, barring established colleges covered by salary grants. The role of the central funding agency like the UGC is only marginal despite the fact that colleges enrol 83% of the students in the higher education stream. The increase in the fee is suggested to be gradual, 10% every year to reach 50% in 5 years, which besides setting off the inflationary rate, peters out to a trickle. The bank-loans, the industry-link up, the R and D effort, consultancy, endowments from the philanthropists are the suggested remedies, which may not cure the malady. The recommendations include a separate cadre and higher scale for the Principal.

The streamlining of the organisational set-up warrants the delinking of the Plus-Two Stage, which has proved a bane in some states. The elections to the student unions are sought to be modified on a merit-based nomination system. The motivation of teachers and the inculcation of the work ethics is touched upon without going into the gamut of professional code of ethics and the performance appraisal reports prepared by the UGC in consultation with the AIFUCTO. The need for orientation of the teachers through the inservice training at the Academic Staff Colleges has been commented upon. The recommendations, though not exhaustive, have covered the important segments of higher education.

Of the 15 seminar papers in-

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College, Hubli-580 020, Karnataka

cluded in the second part, (the third according to the contents) as many as 7 are on quality assurance. The first article entitled 'Quality Circles in Education' makes a fervent plea for adopting the QC strategy with freedom and flexibility on a voluntary basis to foster creativity and innovation. The expression 'Inperfficial willingness' (p. 29) baffles one's imagination. The article, 'Quality Expectations: An Overview' abounds in errors like, 'medieovity' (p. 49), and clumsy constructions like 'Helping government in maintaining peace and order during emergency, along with gambling, black-marketing, bribery, dowry and corruption and so on'. Errors in spelling are aplenty as in p. 55 'futerics' for factories, 'more' for moral and in p. 57 'narrow-mindness' for narrow-mindedness. Grammar is the first casualty in expressions like 'Our Universities needs to acquire a new efficiency' (p. 54). Howlers like these convince us that quality is hard to come by in this plethora of presentations.

The redeeming feature of the whole work is the lone presentation by veterans in the field, namely, Dr. G.D. Sharma and Prof. S.K. Khanna. The essay outlines the concerns for assuring quality by the UGC since its inception in 1956 with the objective of 'determination and maintenance of standards in teaching, examination and research in the Universities.' Categorising the issue under 'developed' and 'developing' countries, the learned authors suggest developed countries have perfected the system of Institutional Accreditation and Comprehensive Evaluation of the Students, which cannot but be cost-intensive. For a developing country like India, the inputs identified are infra-structural development in terms of build-

ings, human resource development besides curriculum and research and development. Down the developing decades, the UGC has spent Rs. 8,180.31 millions for development of colleges and universities, mostly central, averaging on an annual outlay of Rs. 209 millions. During the VI Plan Period alone, as much as Rs. 200 millions have been spent for research fellowships to cover about 5000 teachers. The ASCs set up to cater to the needs of teacher orientation since 1987 have utilised about Rs. 150 millions to cover about 41,970 participants.

Though these figures sound astounding, they have not touched even the fringe of the problem. There are no takers for the curriculum development, Rs. one lakh per subject. The Centres of Excellence, the Inter-University Centres for Advanced Studies and the Country-wide Classroom are aimed at fostering excellence and reaching the masses through AV technology. The regulatory mechanism through the system of affiliation which has been in existence since 1857, though it stands discredited today, the scheme of autonomous colleges, which covers only 106 colleges, though by now we should have had more than 500 institutions, the schemes of review committees to oversee and assess the programmes, the National Educational Testing NET, made compulsory for the JRFs and Lecturership — all these have had their share, albeit small, in ensuring quality in a system otherwise speedily running down.

Some have suggested project work to be made compulsory at PG level. The 'Opinionnaire' collected from teachers in the affiliated colleges gives the impression that it is conceived at the UG level, which is not feasible as a result of overcrowding in the col-

leges. 'Assignments' may help provide the opportunity to work with greater initiative. The suggestion that teachers be given 'non-teaching allowance' on the analogy of non-practising allowance for government doctors, is shocking as it would not wean them away from tuitions. Principals have said much about everything else except themselves. There is a small write-up by Dr Y.N. Sharma on the Recruitment of Principals and teachers with reference to colleges in UP. Teachers officiating as Principals in government colleges for 29 days are given a separate scale while those officiating for months in private colleges get no monetary benefit. Principals do not have a grade all throughout; some states have conceded it, some haven't.

There is a major pitfall for the principals : they do not teach. Liaison work and meetings keep them away from colleges. Principalship is both a teaching and non-teaching post, going by the reports and returns to be signed and sent. Be that as it may, they cannot neglect teaching lest they should end up as non-playing captains ! The Principal is more a signature attesting machine. He is hardly an adept in writing. Educational administration demands a few bare skills of writing as also of oral presentation in the peer group meetings. Clumsy expressions betray chaos in thought. The articles in English by educational administrators leave much to be desired. Educational administration is not anybody's cup of tea. All and sundry have made it a pretty kettle of fish. Stringent procedures of selection through State Education Service if not All-India Educational Service and the intensive orientation at Administrative Staff Colleges or NIEPA, New Delhi bid fair to bestow the requisite wherewithal to carry the burden of running the institutions and shaping the destiny of the future generations.

Globalisation and Communication Skills

Shreesh Chaudhary deserves kudos for his very timely and thought-provoking exposition of Higher Education in the nineties vis-a-vis the current (and future) policy trends (*University News*, December 20, 1993).

Despite the fact that most research and university level institutions are suddenly forced to make "crippling compromises on quality and standards", thanks to the lack of positive management culture and leadership's "penchant for corruption, favouritism and nepotism", the author is positive in concluding that "Our universities have enough talent to survive in any market."

Chaudhary has made extensive observations on CIEFL. Before I remark about our expertise in English teaching, I should like to emphasize that we need to connect language teaching with economic advancement now. Both the government and language teaching centres should see the economic value of language skills competence in the context of increasing global competitiveness, mobility, corporate alliances and closer international collaborations. As I can see, one's ability to function in more than one language will be one of the pillars of the new world order of heightened global economic integration. If we hope to face the challenges of the future and wish to perform well in the global market place, then we must draw upon a workforce with strong communication skills. As researchers in various contexts have proved, export success and language skills go hand in hand: we ought to support good language teaching programmes, and

thus, strengthen linguistically competent workforce, which will no doubt become an important economic asset.

Chaudhary has rightly referred to Indians' expertise in English Language teaching. Those who are in the know of facts, be it CIEFL or other regional or state institutes, should appreciate that the 'business' of ELT has now developed into a multi-million dollars commercial enterprise outside the native bases (UK, USA, Canada, Australia and New Zealand), and with a little enterprise, it should be possible for us, too, to capitalise on it in our own way.

The global diffusion of English has taken an interesting turn: the ratio between the native speakers of English and the non-native speakers is now almost 40:60. Since the British and American have a limited role in

the global spread and teaching of English, one of the nine international languages of commerce, science and technology, and used among more non-natives than natives in the process of their professional pursuits, a university like CIEFL can provide the much desired lead in developing new paradigms and perspectives for linguistic and pedagogical research and for understanding the linguistic creativity, including the scientific and technical discourse, in multi-lingual situations across cultures. It must view the non-native innovations as positive and sell them wherever it can. It can pool and provide trained manpower, and, as Chaudhary stressed, also train manpower in neighbouring countries. The possibilities are immense, if we could exploit them.

R.K. Singh,
Professor and Head,
Dept. of Humanities &
Social Sciences,
Indian School of Mines,
Dhanbad.

तत्काल आवश्यकता है

चित्रकूट ग्रामोदय विश्वविद्यालय, चित्रकूट जिला-सतना (म०प्र०)
(म०प्र० सरकार द्वारा स्थापित एवं यू०जी०सी० से मान्यता प्राप्त)
निम्न पदों में नियुक्ति हेतु पूर्ण वैयक्तिक विवरण, प्रमाण पत्रों की अनुप्रमाणित प्रतिलिपियाँ तथा चित्रकूट ग्रामोदय विश्वविद्यालय के पक्ष में चित्रकूट पर देय रु०25/- के बैंक ड्राफ्ट सहित विलम्बतम् 31 जनवरी, 94 तक आवेदन पत्र आमंत्रित हैं।
कुलसचिव (4500-7300) अर्हता-किसी मान्यता प्राप्त विश्वविद्यालय से कम से कम द्वितीय श्रेणी में स्नातकोत्तर उपाधि एवं किसी विश्वविद्यालय में प्रशासनिक अथवा शैक्षणिक स्तर पर कार्य करने का न्यूनतम 15 वर्ष का अनुभव, जिसमें उपकुलसचिव/रीडर पद पर कम से कम 05 वर्ष का अनुभव सम्मिलित हो।
उपकुलसचिव (3700-5700) अर्हता-किसी मान्यता प्राप्त विश्वविद्यालय से कम से कम द्वितीय श्रेणी में स्नातकोत्तर उपाधि एवं किसी विश्वविद्यालय में प्रशासनिक अथवा शैक्षणिक स्तर पर कार्य करने का न्यूनतम 07 वर्ष का अनुभव, जिसमें सहायक कुलसचिव/प्रवक्ता पद पर कार्य करने का कम से कम 05 वर्ष का अनुभव सम्मिलित हो।
कार्यक अधिकारी

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities

SOCIAL SCIENCES

Library & Information Science

1. Alexander Abraham. A survey of the pattern of literature search by the science researchers of Kerala, Calicut and Cochin Universities. Calicut. Dr A B George.

2. Shaikh Allaadin. Libraries and librarianship during Muslim rule in India : An analytical study. Sambalpur. Prof R K Rout, Department of Library and Information Science, Sambalpur University, Jyoti Vihar, Burla.

3. Tata Rao, Kandregula. User's attitude and behavioural pattern towards theft and mutilation in the university libraries: A case study of Andhra University Library. Andhra.

Journalism

1. Mitra, Malay. News agency journalism in India. Calcutta.

Psychology

1. Joshi, Rekha. Kumauni purushon ke vyavsayik gatisheelata se mahilayon ke jeevan santushti: Manovaigyanik swasthta va suraksha prakriyaon per padne wale prabhav ka adhyayan. Kumaun. Dr V K Sharma

2. Swain, Itishree Sanghamitra. a followup study of young sports persons towards an interactionism paradigm in sports personology. Punjabi. Dr Agyajit Singh, Reader, Department of Psychology, Punjabi University, Patiala.

Sociology

1. Bais, Vedvrat Singh. Social structure and rural development : A study in social change in rural Rajgarh. Barkatullah. Dr I S Chouhan, Head, Department of Sociology, Barkatullah Vishwavidyalaya, Bhopal.

2. Keerthi Shekhar, V. Rapid urbanization and setellite townships : A study in urban sociology. Bangalore. Dr N Jayaram, Reader and Chairman, Department of Sociology, Bangalore University, Bangalore.

3. Malathi, M S. Medical sociology, social epidemiology and illness behaviour : A study of cancer cervix. Krishnadevaraya. Dr Ch Umamohan, Reader, Department of Sociology, Sri Krishnadevaraya University, Anantapur.

4. Mohan, B M K. Housing policy and programmes in urban Bhopal : A study in social and environmental changes. Barkatullah. Dr I S Chouhan, Head, Department of Sociology, Barkatullah Vishwavidyalaya, Bhopal.

5. Sarma, Nilotpal. Plainsman in the hills : A sociological study in Sikkim. NBU.

Social Anthropology

1. Keisham, Sobita Devi. The traditional dresses of the Meities. Manipur. Prof Ch Budhi Singh, Department of Anthropology, Manipur University, Imphal.

Political Science

1. Abu Naser Muhammad Munir Ahmad. Political socialization of students in Bangladesh, Chittagong : A case study. Calcutta.

2. Karnatik, Geeta. Administrative Problems of rural development with special reference to Nainital District in U P. Kumaun. Dr B L Sahu

3. Nainwal, Lata. Kumaun mein panchayat raj vyavastha : Ek adhyayan. Kumaun. Dr M P Dubey

4. Oki, Richard. The problem of corruption in developing countries : The indeterminate nature of the concept and the inadequacy of the remedial measures. Bangalore. Dr R L M Patil, Reader, Department of Political Science, Bangalore University, Bangalore.

5. Peter, Benny. Electoral reforms in India. Bangalore. Dr P S Jayaramn, Chairman, Department of Political Science, Bangalore University, Bangalore.

6. Saxena, Pratibha. 1980 ke pashchat Bhartiya Samvidhan mein huye Samvaidhanik Sanshodhanon ka alochnatmak adhyayan evam prabhav. Barkatullah. Dr K G Shah, Department of Political Science, S S L Jain College, Vidisha.

7. Yatanoor, Chandrakant. Srilanka's foreign policy under the Presidentship of J R Jaywardene from 1977 to 1988. Gulbarga. Dr Mallappa Amravati, Prof, Department of Political Science, Gulbarga University, Gulbarga.

Economics

1. Chowdhury, Md Abdul Mannan. Institutional changes and rural landlessness : The case of Bangladesh agriculture. Rabindra Bharati.

2. Mohamad Shahid Abdulrajaik Shaikh. Evaluation of Wanakbori Irrigation Project: A study of the benefits of irrigation in the region. Patel. Dr D Bagchi, Reader, Department of Economics, Sardar Patel University, Vallabh Vidyanagar.

3. Natt, Upinder. Public enterprise in a predominantly agricultural economy : A case study of Panjab. Punjabi. Dr H K Manmohan Singh, Emeritus Prof, Department of Economics, Punjabi University, Patiala.

4. Pant, Bharati. Nainital Janpad ka arthik vikas evam vibhinn sansadhnnon ka yogdan. Kumaun. Dr (Mrs) Deepa Pandey,

5. Prabhakar, B. Fisheries cooperatives in India with particular reference to Karnataka. Gulbarga. Dr M S Kallur, Reader and Head, Department of Economics, Gulbarga University, Gulbarga.

6. Rajkumar. Economic analysis of public distribution systems in Haryana. HAU.

7. Rastogi, M K. Problems of rural development in Nepal from 1951 to 1981. NBU.

8. Ray, Arindam. The impact of electricity generation and its absorption on a predominantly agrarian economy : A case study of irrigation systems in Cooch Behar District. NBU.

9. Sarker, Kanchan. Study of trade union organisation among the tea workers in Terai and Dooars Regions. NBU.

Law

1. Gurmohinder Pal Singh. Implementation of human rights in India. Punjabi. Prof Sarbjit Singh, Department of Law, Punjabi University, Patiala.

2. Nag, Manabendra Kumar. The Constitution and the codification of Personal Laws in independent India. Calcutta.

3. Sharma, B L. Constitutional protection from deprivation of Personal Liberty in India: A case law study with administrative action and legislation. Saurashtra. Dr Y S Mehta, Prof and Head, Department of Law, Saurashtra University, Rajkot.

Education

1. Keshap, Balbirkour R. A study of motivational pattern, adjustment and attitude towards study of college students. Saurashtra. Dr N S Donga, Reader, Department of Education, Saurashtra University, Rajkot.

2. Odyuo, Etsemo. A study of the educational development among the Lotha Nagas in the Wokha District of Nagaland. NEHU. Dr (Mrs) K S Lyngdoh, Department of Education, North Eastern Hill University, Shillong.

3. Patted, Mallikarjuna Gurubasappa. Teacher education factors associated with changes in educational perceptions of student teacher. Karnatak. Dr H M Kasinath, Department of Education, Karnatak University, Dharwad.

4. Pereira, Maria. Construction and standardization of a written achievement test for admission to the B.Sc. Nursing Course. SNIT. Dr A W Oak, Sudha Sadan, Vishnu Nagar, Naupada, Thana.

5. Raja Lekshmi, M. An assessment of the existing nursery education programme in Kerala. Calicut. Dr Kamala S Pillai, Reader, Department of Education, University of Calicut, Calicut.

6. Ramachandran, K M. Socio and familial variables which cause under achievement in Malayalam in secondary schools. Calicut. Dr S Rajappan Nair, Vaisakh, Kowdiar, Trivandrum.

Commerce

1. Basanta Kumar. Human resources development: A case study of khadi and village industries. Utkal. Prof R K Jena, Department of Commerce, Utkal University, Bhubaneswar.

2. Chhabra, Satvir Singh. Madhya Pradesh van upaj evam van vikas karyakram. Devi Ahilya. Dr M P Sen, Principal, Indore Christian College, Indore.

3. De, Biswanath. The study of the financial problems of poultry farming in the District of Midnapore, West Bengal. Calcutta.

4. Dehliwal, Prakashchandra P. Bhandara Jile mein chawal mill udyog karyapranaali : Ek adhyayan. Nagpur. Dr Radha Krishna Paliwal, Head, Department of Economics, S N M College of Arts and Commerce, Nagpur.

5. Goud, R Mare. Labour welfare and social security in mining industry: A comparative study of the select public and private sector mining units. Krishnadevaraya. Dr P B Appa Rao, Lecturer, Department of Commerce, Sri Krishnadevaraya University College, Anantapur.

6. Kenneth, Ezeala A N. A study of preventive measures of industrial disputes with special reference to cement industry in Vidarbha, 1977-1987. Nagpur. Dr C G Fukey, Principal Director, Department of Management and Research, Dhanwate National College, Nagpur.

7. Majumdar, Chhabi. Borrowing as a source of financing, working capital in the corporate sector in India : An empirical analysis. Calcutta.

8. Ramakrishnan, A. Management of primary cooperative marketing societies in Tamil Nadu : A study of South Arcot District. Krishnadevaraya. Prof T Subbi Reddy, Department of Commerce, Sri Krishnadevaraya University College, Anantapur.

9. Sharma, Ajay Kumar. Raipur Sambhag ke audyogik vikas mein vanopaj adharit udyogon ka yogdan. Ravishankar. Dr Mukund Ram Chandrakar, Asstt Prof, Govt R L College, Rajim.

10. Shukla, Umakant N. Swatantrayottar kalanteel Bharat Soviet Russia vyapar sambandh, 1947-1990. Nagpur. Dr S P Kulkarni, Department of Economics, C P and Berar College, Nagpur.

Home Science

1. Amirtha Gowri, R. Impact of a population education programme on adult women learners and animators in a mass literacy programme. Avinashilingam. Dr R Nalina Devi, Reader, Department of Human Development, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore.

2. Jothi Mani, G. Development of Women and Children in Rural Areas DWCR programme in Periyar District, Tamil Nadu: A micro analysis. Avinashilingam. Dr S Sitalakshmi.

3. Krishnaveni, V. Motivating rural women towards participation in developmental programmes. Avinashilingam. Dr S Sitalakshmi.

4. Kumar, Annamma R. Nutritional status of industrial workers of Nainital District : A comparative study with Nagpur District. Nagpur. Dr (Mrs) S A Vali, Lecturer, Department of Home Science, Nagpur University, Nagpur.

5. Kunjamma, K C. Effect of nutrition education and diet supplementation on selected physical fitness components of adolescent girls — rural and urban, Avinashilingam. Dr Godavari Kamalanathan.

6. Rathnam, K. Studies on toxicological aspects of spongy gourd oil with reference to enzymes involved in neurotransmission process. Patel. Dr S S Sail, Prof and Head, Department of Home Science, Sardar Patel University, Vallabh Vidyanagar.

Management

1. Sarada, A K. Delegation of authority in selected public and private industries in Kerala. Calicut. Dr C N Purushothaman Nair, Department of Commerce, University of Kerala, Trivandrum.

EDUCATION NEWS INDEX

A list of select articles and editorials on education from newspapers received in the
AIU Library during December 1993

EDUCATIONAL PHILOSOPHY

Mathur, V S. National maturity and education. The Assam Tribune 15.12.93.

EDUCATIONAL PSYCHOLOGY

Gopala Rao, V Raja. Need for knowledge centred learning. The Hindu 7.12.93.

Kundu, M. Do we aid language learning? The Hindu 21.12.93.

EDUCATIONAL POLICY & PLANNING

BELOW THE summit (Editorial). The Times of India 17.12.93.

Bidwai, Praful. Putting power into education. Deccan Herald 13.12.93.

CLASSROOM STRUGGLE (Editorial). The Telegraph 18.12.93.

EDUCATION AS critical investment (Editorial). The Hindu 18.12.93.

EDUCATION FOR all (Editorial). The Assam Tribune 21.12.93.

EDUCATION FOR all (Editorial). The Hindustan Times 1.12.93.

EDUCATION FOR all (Editorial). The Times of India 4.12.93.

EDUCATION FOR all : The unfinished mission (Editorial). National Herald 5.12.93.

EDUCATION SUMMIT (Editorial). Deccan Herald 18.12.93.

GETTING DOWN to brass tacks in EFA (Editorial). The Hindu 15.12.93.

Kulkarni, Manu N. The tyranny of the blackboard. Indian Express 22.12.93.

Manckekar, Kamla. Education for all. The Assam Tribune 22.12.93.

POOR TRACK record (Editorial). Free Press Journal 17.12.93.

Ray, Ash Narain. Education for all : An elusive dream. The Hindustan Times 13.12.93.

Rohidekar, S R. Study less and learn more. Deccan Herald 4.12.93.

THE ROOT of growth (Editorial). The Tribune 18.12.93.

Sethi, Sunil. Bullets, not education, matter to them. The Pioneer 19.12.93.

Shotton, John R. When schools squeeze the mind. The Economic Times 19.12.93.

Sinha, M P. National system still a far cry. The Hindu 28.12.93.

SIX PER CENT solution (Editorial). The Economic Times 18.12.93.

SPOTLIGHT ON education (Editorial). The Hindustan Times 18.12.93.

Swamy, V K. Education for all by 2000 AD. Deccan Chronicle 17.12.93.

Vedantam, Vatsala. Need for an honest appraisal : Education for all. Deccan Herald 10.12.93.

A WISHY-WASHY commitment (Editorial). The Pioneer 18.12.93.

EDUCATIONAL ADMINISTRATION

Abdul Kareem, S. Higher Education : A matter of honour. Deccan Herald 25.12.93.

Ambirajan, S. Academic sutra. The Economic Times 27.12.93.

Amrik Singh. A job half done. The Hindu 21.12.93.

Anand, R and Vijayaraghavan, S. Donation for college admission. The Hindu 16.12.93.

Bal Krishna. HC cautioned on admission rules. The Hindustan Times 6.12.93.

Benjamin Franklin, D. Towards better quality in university environment. The Hindu 21.12.93.

DELHI UNIVERSITY 2010 (Editorial). The Hindustan Times 14.12.93.

Devy, G N. Higher education in doldrums. The Times of India 25.12.93.

Gangurde, R P. Towards excellence in higher education. Indian Express 20.12.93.

Gopalakrishnan, Saroja. The right path to perfection. The Hindu 21.12.93.

Laxman Rao, N. Marketing higher education. The Hindu 7.12.93.

THE MALAISE in universities (Editorial). The Hindu 31.12.93.

Menon, I C. Infeasible in the present context. Indian Express 20.12.93.

THE MESS in universities (Editorial). Indian Express 21.12.93.

Mishra, Deba Prasad. What ails our academic scenario? The Assam Tribune 25.12.93.

Nayar, T V G. Efficiency of educational activities. The Hindu 21.12.93.

Sodha, Mahendra. Challenges and opportunities. The Hindustan Times 26.12.93.

Talwar, Ashwani and Bahuguna, Shagun. Lessons in laissez-faire. Indian Express 26.12.93.

TEACHING VERSUS research? (Editorial). The Tribune 20.12.93.

Venkatasubramanian, K. Universities and rural development. The Hindu 14.12.93.

EDUCATION & POLITICS

Bal, Sambit. Maharashtra : Temporary lid on row over varsity. Deccan Herald 14.12.93.

Varsity row doesn't worry pawar. Deccan Herald 19.12.93.

Bodhi, Roopa. The third force forges ahead. Indian Express 27.12.93.

DR AMBEDKAR University (Editorial). Free Press Journal 11.12.93.

HONOURING AMBEDKAR (Editorial). The Hindustan Times 29.12.93.

Joshi, Manohar. Social tension in the offing. Indian Express 27.12.93.

Lipkin, Harry J. Science & politics : They know not what they do. The Economic Times 4.12.93.

NAMING UNIVERSITIES (Editorial). Patriot 27.12.93.

Sinha, Ravi R. Yadav on sticky wicket. Deccan Herald 26.12.93.

CURRICULUM

Goswami, Mani. Population education in contemporary society. The Assam Tribune 20.12.93.

VOCATIONAL EDUCATION

Parsai, Gargi. Regulating medical education. The Hindu 2.12.93.

Seetharamu, A S. The triangular contest in professional education. Deccan Herald 11.12.93.

TEACHERS & TEACHING

Amrik Singh. When teachers start playing truant. The Times of India 11.12.93.

Das, Saroj Kumar. For healthy classroom deliberations. The Hindu 14.12.93.

DUTA's DEPLORABLE ways (Editorial). Indian Express 6.12.93.

Janakiraman, S. Do teachers count in society? The Hindu 28.12.93.

Joshi, Navin Chandra. Neglect of good teaching. The Assam Tribune 21.12.93.

Nambiar, Sonora Jha. A lesson for teachers. Deccan Herald 4.12.93.

Ramesh, Lalitha. Need for redress of teachers' problems. The Hindu 28.12.93.

Sharma, D R. The difficult art of teaching. Indian Express 28.12.93.

Uberoi, N K. Learning how to teach. The Hindustan Times 29.12.93.

EDUCATIONAL RESEARCH

Balasubramanian, A G. Doctoral research : A starting point? The Hindu 14.12.93.

EDUCATIONAL EVALUATION

Amrik Singh. Examinations : Can students claim damages? The Assam Tribune 23.12.93.

THE COPYING problem (Editorial). Indian Express 25.12.93.

Madan Mohan. Exams by referendum? : The CBSE dilemma after the High Court ruling. Indian Express 3.12.93.

Saraph, Manjiri. 60% for EAMCET? : Why not? Deccan Chronicle 12.12.93.

ECONOMICS OF EDUCATION

Rajeshwer Rao, Y. Controlling the brain drain. Deccan Chronicle 23.12.93.

Sarma, Purabi. Unemployment : A burning problem. The Assam Tribune 21.12.93.

Susheel Rao, Ch. Higher education at crossroads. Deccan Chronicle 13.12.93.

WOMEN'S STUDIES

Bandyopadhyay, P K. Renewed focus on female literacy. The Assam Tribune 2.12.93.

FEMALE EDUCATION mission (Editorial). Indian Express 2.12.93.

Mishra, Renuka. Women's education : Calculating the cost. The Hindustan Times 16.12.93.

ADULT EDUCATION

Chakravartty, Nikhil. Change the mindset. The Economic Times 14.12.93.

Jain, G P. Abridged literacy : A feasible target. The Hindustan Times 8.12.93.

Panicker, Lalita. Breaking gridlock of illiteracy. The Times of India 13.12.93.

ELEMENTARY & SECONDARY EDUCATION

Khullar, K K. School goes to the child. Patriot 27.12.93.

Mustafa, Shabbir Md. A text-book case. Deccan Herald 18.12.93.

COMPARATIVE EDUCATION & COUNTRY STUDIES

Arunachalam, Subbiah. Growth of science in China. The Hindu 8.12.93.

Veswara Reddy. Uneven state of education for all. National Herald 15.12.93.

INSTITUTIONAL PROFILE

Sathyanarayana, E V. A college like no other : College of Fisheries, Mangalore. Deccan Herald 4.12.93.

Sinha, Rajesh. A new class : Chitrakoot Gramodaya Viswa-vidyalaya. Indian Express 26.12.93.



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REGISTRAR

MINISTRY OF HUMAN RESOURCE DEVELOPMENT

SCHEME OF SCHOLARSHIPS TO PRODUCTS OF TRADITIONAL INSTITUTIONS FOR RESEARCH IN CLASSICAL LANGUAGES OTHER THAN SANSKRIT, i.e. ARABIC AND PERSIAN 1993-94

Applications are invited from Indian nationals for the award of scholarships for research in classical languages other than Sanskrit, i.e. ARABIC AND PERSIAN for the year 1993-94.

NUMBER OF SCHOLARSHIPS : 20

QUALIFICATIONS FOR ELIGIBILITY : The candidates must have obtained a Degree/Diploma in any classical language in the highest examination conducted by a University or State Government or a well established Institution for a classical language which may be or is recognised for the purpose by the Central Government.

AGE : No hard and fast rules regarding age of candidates are prescribed. However, preference will be given to candidates below 40 years of age.

SUBJECT OF RESEARCH : The subject for research may include: a. Critical editing of classical texts/manuscripts; b. Bringing out expositions of the erudite texts or commentaries thereof; c. Study of scholar and his thoughts and or its development and; d. Such other subjects that are commonly taken up in the field of Arabic/Persian and other Indian classical languages at the Universities.

SUPERVISOR/PLACE OF RESEARCH: The selected candidates will work under a Supervisor approved by the Institution. The research may be conducted at: a. University Departments, established Madrasas and other Institutions of higher learning engaged in study and research in classical languages, high level Arabic and/or Persian Colleges, manuscript Libraries and such other Institutions as may be recognised for the purpose, and b. In some special case a research scholar of exceptional standing who may not be able or willing to leave his/her home place but who is regarded as an Institution by himself/herself may guide a research scholar of the type envisaged in this Scheme.

DURATION AND VALUE OF SCHOLARSHIP: The scholarship is of the value of Rs. 300/- per month and shall normally be tenable for a period of two years or upto the date of completion of the research work, whichever is earlier. The continuance of scholarship will depend on satisfactory progress of work and the selected candidates will have no other full time academic employment or award during the tenure of scholarship.

HOW TO APPLY: Applications should be submitted in the prescribed format given below, typewritten on thick good quality foolscap size paper and should be sent to : **The under Secretary, National Scholarships Division, (NS. 2 Section), Department of Education, A.1/W.3, Curzon Road Barracks, New Delhi- 110 001. THE LAST DATE FOR RECEIPT OF APPLICATIONS IS 28 FEBRUARY, 1994.**

IMPORTANT: 1. Applications should be routed through the Head of the Institution chosen by the candidate for research. 2. The candidate should send the synopsis of the Research work he proposes to undertake. 3. A consent letter from the Supervisor under whom the scholar will undertake his research work should also be sent. 4. The mere fact that a candidate has fulfilled the minimum educational qualification as laid down in this advertisement does not necessarily qualify a candidate to be called for interview. Canvassing in any form shall disqualify a candidate. Applications received incomplete or after Last Date shall not, under any circumstances be ENTERTAINED.

SCHEME OF SCHOLARSHIPS FOR RESEARCH IN CLASSICAL LANGUAGES OTHER THAN SANSKRIT, i.e. ARABIC AND PERSIAN - 1993-94

PROFORMA FOR APPLICATION

Research in _____
(Please mention whether it
is in Arabic or Persian)

1. Name in full
(In capital letters) (In the case of women candidates, the appropriate word Kumari' or 'Shrimati' should invariably be given)

Surname

Name

2. Father's/Husband's name (In capital letters)

3. Full permanent address

4. Nationality

5. State to which belongs

6. Date of birth (In Christian era)

7. Present postal address (In full)

8. Give particulars of all examinations in classical languages in Arabic/Persian passed and diploma/degree obtained.

Please attach a Passport size
photograph duly attested by a
Gazetted officer

Name of the examining body (University/ Board)	Exam. Passed	Year	Class or Division	Subjects taken	Marks obtained
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NOTE : CERTIFIED COPIES OF ALL THE MARK SHEETS, CERTIFICATES, DEGREE, ETC. MUST BE ATTACHED.

9. Special academic distinction attained in classical languages like Arabic/Persian if any (not given in the above column).
10. The subject of research work :
11. Whether it is in Arabic or Persian :
12. Details of research work and published papers, if any "If possible, copies of papers also should be submitted which will not be returned in any case. (If the space is insufficient for this purpose, please give full particulars on a sheet of paper and attach it to the application stating therein a reference to the sheet attached).
13. Name of the Institution/University at which study/research work is proposed to be conducted
14. Name, designation and full address of the Supervisor :
15. The candidate should give below the names of two persons who are in a position to testify from their personal knowledge as to his/her fitness for the proposed research work. They must not be related to candidates and must be in the teaching line.

1. Name
Status
Address

2. Name
Status
Address

I hereby declare that the entries in this form and the additional particulars if any, furnished in reply to the questions above are true to the best of my knowledge and belief.

I also declare that in case I am selected for the scholarship applied for, I shall devote my full time to the approved course of study/research and that I shall not undertake or carry on any other paid work, or receive another scholarship or any other grant from any other source during the tenure of this scholarship.

I further declare that I was never a scholar under the Government of India Scheme.

Place :

Date :

Signature of the candidate

NOTE : THE STUDENTS MUST SEND THE DOCUMENTS CALLED FOR IN THE ADVERTISEMENT UNDER THE TITLE "IMPORTANT"

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REGISTRAR



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University News

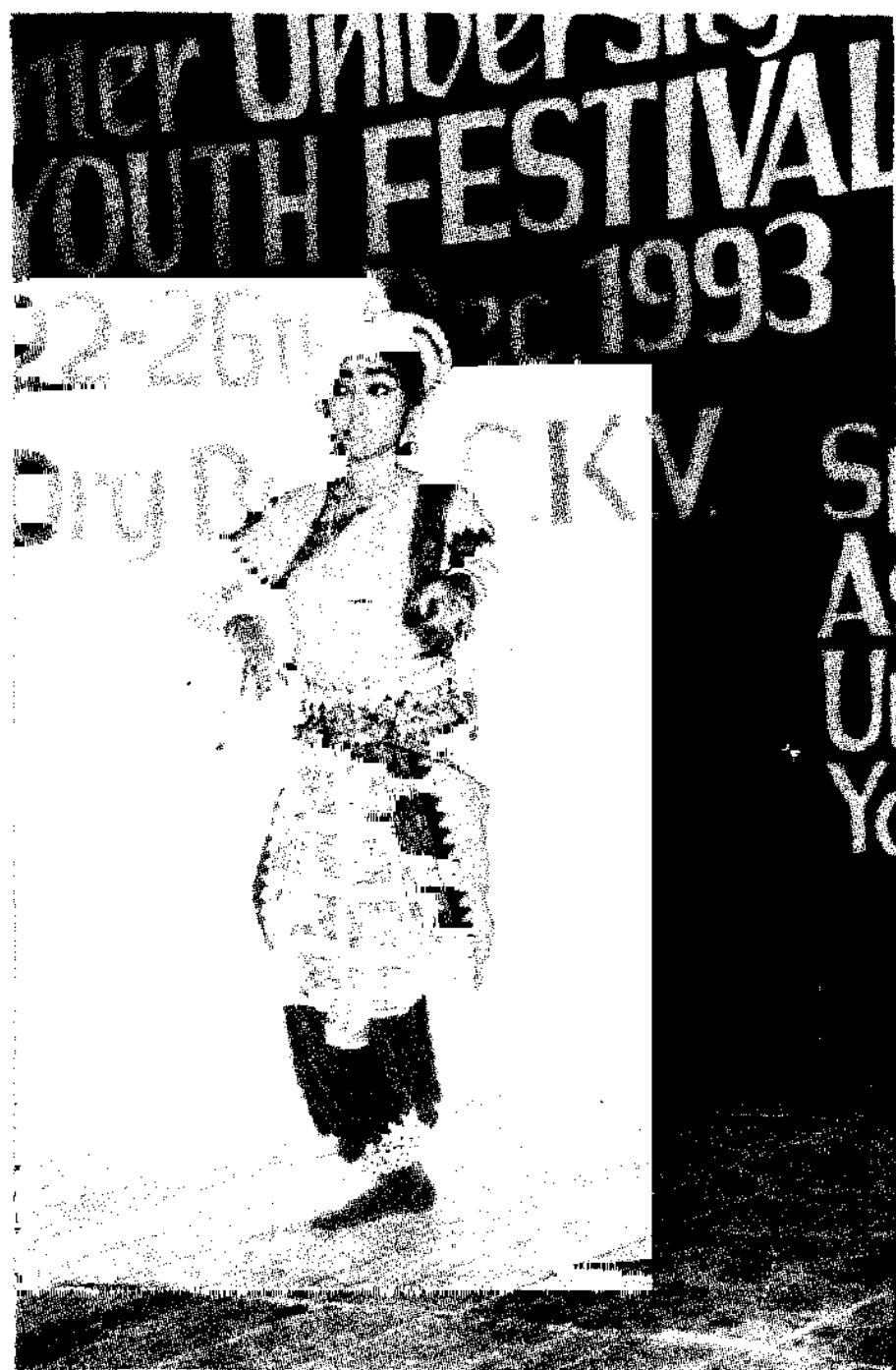
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UNIVERSITY NEWS

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Editor :
SUTINDER SINGH

Some Reflections on the Role of Humanities in Higher Technical Education

R.K. Singh*

Let me try to provide a perspective to my remarks that ensue from my reflections on the quality of intellectual activity in most technical institutions vis-a-vis the negligible support for scholarship in the Humanities. Perhaps, the belief is that the humanities are not 'real subjects' or that these have no bearing on learning of technical subjects, or these bring no demonstrable economic benefit.

It is true that studies in humanities are not always a matter of communicating 'new findings' or proposing new theories, models, or methodologies, as in sciences. It is rather 'cultivating understanding' or thinking critically about some profound questions of human life. It is often the expression of the deepened understanding, which some individual has acquired, through reading, discussion and reflection on a topic which has been 'known' for a long time. To me practices in arts and humanities elevate consciousness, refine susceptibilities in various directions, and create deeper awareness.

It is unfortunate that most university level technical institutions in India, like the general ones, have failed in promoting or upholding healthy intellectual attitudes and values, and academic culture and tradition, expected of a university, just as, it's painful for me to observe, the culture has been virtually dismal in the case of studies in arts and humanities. The dullness and sameness has marginalized both creative and critical performance, or the standards handed down to us have become obsolete, or we have fallen into an abyss of unbecoming elitism, or we have become used to a cornucopia of pleasures formerly denied us: I won't comment. But we seem to have degenerated to a level of 'non-university'. I suspect most of the faculty in technical universities do not want to move beyond the parochial confines of narrow exclusivity: It's the age of specialisation they say, and discourage diversity, tolerance and inclusivity; As teachers of humanities we, too, have not tried to *reach out* or *explore* :

Most technical and general universities are not oriented to the transformation of our social order, nor are they obligated to act as a moral deterrent in inhibiting the growth of selfish motivation. They conceive education in terms of laboratory or industrial practices in mineral and mining sectors, petroleum, civil or electrical engineering, electronics, computer application, environment, industrial management and all that, but hardly care for 'producing' fully competent and spiritually mature human beings. They do not give importance to the growth of individual creativity, and to an intuitive understanding of individual purpose. They do not consider it necessary to educate, to quote Rabindranath Tagore, with "the knowledge of spiritual meaning of existence". They have been unfortunately bogged down in schemes that inculcate a habit of the mind which indulges in seeking only better opportunities to survive.

*Head, Department of Humanities and Social Sciences,
Indian School of Mines, Dhanbad-826004.

I'm afraid for too long we in the university system have practised the "how to" of life and neglected the "why". I believe it is comparatively easy to learn how to accomplish certain material tasks, but much more difficult to learn "what for". If our educational system has failed over the years, it is because we have never come into a working knowledge of our humanity. We have gained incredible amount of technical knowledge, perhaps more than enough to resolve many problems with which mankind is presently faced, but we have never tried to reflect on how to apply it constructively and successfully for the good of all, with a sense of human dignity.

Some of us rightly worry about the general lack of mutual respect for the rights and feelings of others, tend to be suspicious of the unknown, tend to take liberty with the sanctity of the individual person, and complain about the general lack of character and integrity, despite *higher education*. I see our failure in communicating with the spiritual insight which is marked by a balance between individual desires and social demands. I see our failure in the awareness of the world of values and principle of the spiritual oneness underlying the great variety found in the world. I see our failure in the rigidity of attitude, degradation of human dignity, and corruptibility of the soul. I see our failure in the humanity being torn apart by intolerance and fundamentalism, the suicidal urge for self-destruction. I see our failure in the rising ethnic, linguistic and religious tensions that now belie the scientific, technological and enlightened euphoria of the sixties.

The anti-intellectual politics of the academia has further eroded the educational system, which, with its excessive emphasis upon science and technology, and the pursuit of money and power, has been training essentially good people to tolerate greed and selfishness as a way of life, and to hold such gains as they may have acquired by the sheer force of arms. The momentum of this false standard of moral values has produced a disintegrating economy, a wholesale dismantling of basic governmental functions, and a callous disregard for human dignity.

Every university is a school of higher education, but how high is high? If we are only interested in technical education for the sake of developing professional ability or skill in some area of life, then we are concerned with a vocational school or polytechnic, and not a true university. Unfortunately,

most universities have been vying with each other to become professional schools, not committed to the teaching of better morality, higher philosophy, universal order or universal culture. I am afraid all one can expect from the present priorities in the so called higher education is survival.

With the present consciousness, we, in educational establishments, have perpetuated living with a world in upheaval, and in some cases, have even shown a preference for it. But, with a higher order of awareness that approaches intuitive levels of understanding (something arts, culture and humanic studies essentially seek to develop), we should be better able to rationalise how we ought to live in the future.

A technical institution of higher learning needs to provide for education which also elevates the consciousness and extends the power of the soul, that is, we need to shift part of the current educational priorities from scientific and technical thinking to soul cognition: The end and aim of a university, be it technical or general, is the perfection of man, striving to evolve the consciousness in tune with the universe.

The education we 'sell' needs to be re-tuned towards creativity, innovation and respect for fundamental freedom; our policies and curriculums should help in strengthening the culture and values of a global society which would be characterised by multi-culturalism, intercultural interaction, mutual respect, tolerance, dignity, and respect for values and consciousness of ourselves as one human race, human rights and global responsibility for change in attitudes. We must, at every level, strive for a balance between the traditional attitudes and the need for a modern multi-cultural society.

A university's distinctiveness now depends on certain key factors like: (1) The search for more students with aptitude and genuine academic orientation; (2) the search for financial resources beyond tuition and government grants; (3) the search for appropriate faculty; (4) the vision of the chief administrator(s); (5) the professionalization of the faculty; (6) the management pressures of the moment; (7) the power of other institutions; (8) the ambiguous policies and governing structures; and finally (9) the quest for diversity.

I won't like to dwell on any of these factors in

(Contd. on page 4)

Reflections on Human Resource Management

Shivendra K. Verma*

The time has come when we must get rid of the traditional notion of 'training' as a set of directions and instructions regarding 'what to do and how to do'. The philosophy underlying this approach was that trainers knew everything and trainees were empty bags ready to be filled with assorted pieces of information. The point we would like to make here is that trainees are not machines or animals. They are human beings — creative, innovative, willing to explore fresh fields and pastures new, ready to try out. They are born with a built-in ability to explore, exploit, and generate resources. They are not always message-bearers; they are also message-makers; they are not simply meaning-conveyors, they are also meaning-generators. They are not and should never be passive recipients of instructions. They are subjects and not objects, agents and not patients. Examined from this point of view trainers are trainees and trainees are trainers. Trainers and trainees working together should find solutions to their problems. Training is not a process of pumping or packing but of unfolding and development. What is necessary for this blossoming to take place is the creation of an environment/atmosphere conducive to creativity. Please remember that knowledge is not just out there imprisoned in a book or manual, waiting for someone to come along and release it. Knowledge is produced in response to questions and new knowledge results from the asking of new questions; quite often new questions about old questions. The objective of our human resources development programmes should be to bring into focus some of the key intellectual abilities man has developed — the art and science of asking questions, the desire to explore and experiment and the ability to impose a design on chaos.

We must encourage fellow workers to experiment and in that process do even crazy things which don't quite fit into tailor-made systems. Unless we build people with faith in their own self, their potential, their generative power, we cannot have leaders [we can have only breeders]. We should create an environment in which human beings develop the ability to fashion a vision about

the way things ought to be, compared to what things are today. Because of the changing global patterns we can't afford to cling on to a set of non-changing values. Developing human resources means developing human beings who can change things, shape things, be in tune with the changing environment, and adapt themselves to the expanding universe around them. It means trying to understand human beings, their interpersonal relations, their organisation, their culture, their ability to get things happen within a given system and not always ask for miracles to happen. It means activating their built-in potential. This can be done by updating their knowledge, getting them involved in problem-solving interactive activities, and motivating them to ask questions. In order to achieve this we need to have three types of networking in interaction — a networking of human beings, a networking of information, and a networking of institutions. Our people are talented. Each one of them has a spark of genius, but most of them have had an ignition problem. By creating a suitable climate, we can activate the trigger and facilitate ignition.

There is a lot of information, a lot of data available today. The question is : how do we use this mass of information and data for generating a richer, better, and more productive life. We must capture the message which lies embedded in the following lines from T.S. Eliot :

*Where is the life we have lost in living?
Where is the wisdom we have lost in knowledge?
Where is the knowledge we have lost in information?*

The target we would like to achieve is knowledge, a unified system of knowledge with the variety of applicational parameters. Language has a very important role to play in this area. We must know when to switch from our mother tongue to a second language and from a second language to a foreign language. We must help our trainees acquire the ability to use these languages as effective systems of communication and also as linkers and binders — as our window on the world, not just one window but a number of windows enabling us to have different views of the expanding universe.

The focus of our programmes should not be

*Vice-Chancellor, Central Institute of English and Foreign Languages (CIEFL), Hyderabad - 500 007.

on job-centred activities but on those general abilities — general competence, linguistic competence, pragmatic competence, and managerial competence which can enable us to handle a variety of jobs in a variety of situations. Please note that :

If you give a man a couple of idlis, you feed him for a day.

If you teach a man how to make idlis, you feed him for a lifetime.

All training programmes are tried out under simulated conditions but our main objective is to help our trainees get out of simulators and wrestle with problems in real life situations. Training is a life long process of growing.

The end and aim of all education, all training should be man-making — making men who can wrestle with problems to find solutions, who can convert crisis into a creative force, who can transmute weakness into strength; who can use human energy — physical, mental, and spiritual — to gen-

erate Power. Our slogan should be: Let us work together, let us act in the living present for a better, brighter tomorrow!

It is sad that in the field of training we have been consumers and not producers and innovators. We have been exporting our talents and importing 'ready-to-use' and 'made-to-order' training packages based on settings and experiences entirely different from ours. We must keep all our doors and windows open. We must interact with ideas coming from outside our country but we must have the confidence derived from field experiences to change, modify, and expand the imported models or to come out with a new model or a set of new models on the basis of our needs, our experiences, and the socio-political setting in which we are functioning.

Training is a dynamic process of imposing order on chaos, which in turn gives rise to new forms of chaos. What makes our work exciting, challenging, and interesting is this eternal battle between order and chaos, between systems and the forces working within these systems.

Some Reflections on the Role of Humanities in Higher Technical Education

(Contd. from page 2)

detail, nor would I doubt a 'specialised' university's autonomy for taking decisions about new courses it offers or researches it promotes. I won't also question the genesis of administrative and financial complexities that bog down the system, nor would I ask about a university's relevance or irrelevance in the nation's economy today, but I would definitely worry about the lack of willingness to nurture the ethos and sensibility that sustains a university spirit, even as, according to the current government policies, an institution of higher learning, particularly, a specialized technical university, is expected to run as a business enterprise which, in days to come, will modify, perhaps irreversibly, our attitudes to teaching and research, our notions of

knowledge, our administrative practices, and our relationship with the state and society.

A strong exposure to arts and humanities should prove helpful in equipping the future generation with a mental make up and values so necessary to move forward. The educational administrators and policy planners need to make a move from the concerns of the immediate present to the future and visualize a different typology of cultural, linguistic and educational problems against a very fluctuating socio-political climate and pressures of all types to sustain the meaningfulness of higher education, the attitudinal core of which can grow from humanities alone.

Information Sources for ETV Production

Amjad Ali*

Introduction

The present day society is undergoing a rapid change. Machines are being adopted to provide a better understanding of reality through the audio-visual media — a creation of the industrial era. In the past, growing children built their own models of reality out of images received from their parents, teachers, priests and neighbours but the situation has drastically changed now. On TV screen, one can see foreign cities, peep into the cosmos, look into the deep oceans and observe the objects which otherwise are invisible because of the physiological limitations. The perception process is undergoing a great change. It is evident that in the time to come, man will depend more upon the senses of sight and hearing for perception of reality. Alvin Toffler states "An information bomb is exploding in our midst, showering us with a sharpness of images and drastically changing the way each of us perceives and acts upon our private world. In shifting from a Second Wave to a Third Wave info-sphere, we are transforming our own psyches". (*The Third Wave*. London, William Collins, 1980)

Paper dominated the scene of learning for the last many centuries. But with the advancement in the information technology it is reduced to a medium of communication like any other. In the words of S. John Teague, Librarian Emeritus, The City University Library, London "print on paper must be regarded as just one of the physical media which carry information. Other media are microfilm, magnetic tape, magnetic disc, videotape, video disc, electromagnetic waves, pulses of light in fibre optic cables etc" (*Microform Video and Electronic Media Librarianship*. London Butterworths, 1985).

Technology is playing an active role in the process of imparting education. In India, Doordarshan came into being in 1959 as a Pilot Television Centre of UNESCO to impart social education. The Department of Teaching Aids of the Ministry of Education was engaged in production, collection and circulation of educational films even before Doordarshan was set up. The advent of the Consortium for Edu-

cational Communication and the Central Institute of Educational Technology is the result of the realization of the role that educational films can play in the educational and instructional process.

Educational Films

Educational Films are short duration films normally running from 2 to 30 minutes. Some of the institutions consider upto 45 minutes films in this category. They are different from the commercial, entertainment and developmental films in respect of their contents. The educational films are solely meant for education and there is no expectation from them for generation of financial resources. The educational films can be categorised according to their target audience. In India, films of all categories are being produced by different agencies. Films for the primary classes are normally produced by the Educational Television, a division of Doordarshan. The Central Institute of Educational Technology (CIET) and State Institutes of Educational Technology (SIETs) also produce films for the school children. The production of films for the university students started in 1984 with the commissioning of UGC/INSAT/TV Project at the Mass Communication Research Centre of Jamia Millia Islamia University, New Delhi. In the beginning, the programmes were aimed at the postgraduate students. Later on, when the infrastructure increased, the production started for undergraduates too. There are a number of other professional organizations apart from CIET/SIETs such as Indira Gandhi National Open University, Indian Institutes of Technology, Indian Institutes of Management, Technical Teachers Training Institutes, Agriculture Universities and a number of other governmental as well as private production agencies. The University Grants Commission has promoted the production of educational films by establishing media centres in a number of universities and also by developing standardized curricula for the subjects of study at the university level.

Information Needs

Information is the basic resource for a film maker. Unless and until mastery is obtained over a subject on which someone intends to produce a film the work cannot be carried out satisfactorily. This has special significance for short educational

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films. In the words of a renowned documentary film maker of our own times Prof. James A Beveridge "The visible information in a film, the information content expressed in the story and stated in the dialogues and commentary resembles the proportion of an iceberg which can be seen floating on the surface of the ocean. Only one eighth, we are told, of the iceberg can be seen above the surface of the water — seven-eighths of its bulk is below the surface and can not be seen. This gives us an analogy with the information contents of our films. Only a small proportion of the facts are literally seen or heard in the film presentation. But a much larger body has been absorbed and studied by researcher". (*Script Writing for Short Film*. Paris, UNESCO, 1975)

The vast amount of information gathered in varied forms of documents is the raw material for a production. It should be used with great care. The film maker should have firm control over all the resources in order to avoid any confusion as the arrangement and presentation of information in an imperfect way can lead to convey different meanings. This reminds me of a short film 'The Eye of the Beholder' wherein a particular event means differently to all the five persons who saw the event. It is worth mentioning here that none of the beholders perceived the real message. There is always scope for confusion in case the information is not placed in a proper perspective.

Film production on celluloid is a very costly and time consuming process which has now almost succumbed to video. Video has revolutionized the world of motion pictures because of its instant playback facility and the lower cost of production. Films having higher resolution are being produced in many video formats. The problems in preservation have also been overcome by the advent of digital technology. Images and sound can now be preserved for hundreds of years without involvement of much care for them as in case of celluloid films. Film production, whether on celluloid or video, is a costly affair. The shooting of sequences invites for much pains and financial resources; therefore, there is always a desire to preserve these sequences and reuse them whenever possible in future productions. One can hardly find any production agency where the footage is not retained in the hope of utilization but it is seldom used properly, and the main reason for this is generally the lack of proper information systems.

Sources of Information

The film makers adopt a multi-media approach.

They need information in varied forms and at different stages of work. The ideas are needed for selection of the production themes. A newspaper having altogether different stories or a news bulletin can invoke the hidden desire of doing a programme on a particular topic but only a very few film makers have the privilege of selecting the themes for their productions. Normally, the production themes are assigned to them by the sponsoring body. They may sometimes have a broad idea given by the sponsors which can further be elaborated and tested in accordance with the suitability. The factors like the expenditure involved, the availability of subject experts and the convenience in shooting the sequences are equally important. Once the theme of a production is finalized, the process of production begins. The first step is to try to know more and more about the subject; to absorb the maximum information available; to digest it and transform it into the language of words and pictures. This is the ultimate goal of a film maker. The sources of information thus needed can be categorized as print, visual, audio and electronic.

Print Sources

After finalizing the topic of production the first step should be to consult a dictionary or an encyclopaedia. A dictionary will be too general a tool for a person having a professional background. Alternatively, encyclopaedia have comprehensive coverage on all the subjects. Specialized encyclopaedia can be consulted depending upon the specific needs. If someone intends to produce a programme on diodes it would always be advisable to search for the desired information in an encyclopaedia on science. Once a complete picture of the theme is constructed, one should move to the current sources for data or relevant statistics since the production has to be related with the time and space. Books, periodicals, articles, research publications and press clippings can be consulted to elaborate and present a comprehensive coverage on the topic of production. It is worth mentioning here that press clippings, barring a few having archive value, lose their currency after two years of their publications and generally the topics covered in newspapers are transformed into books or atleast they are published in editorials of the periodicals. But still a news story on paper can be shot for a production to take back the audience to the time when the incident took place.

Visual Sources

Most essential of the primary sources of infor-

mation about the educational films are the actual programmes available on the subject. One of the first steps for a film-maker is to know before starting on production whether his intended subject has already been covered by other films and if so where those films can be hired from for review. Such information is not always easy to come by but it pays if somebody attempts. For educational films in India, there are sources to determine it. Now, union catalogues of EMRCs, AVRCs and MCRC are available from the Consortium for Educational Communication, New Delhi. It is expected to update the records electronically every month in the near future. In addition, the catalogues of CIET, SIETs and ETV productions of Doordarshan can also be seen. IITs also produce films on scientific and technical subjects. The search can be made keeping in view the subject of programme and the level of audience for whom the film is going to be produced. The films thus reviewed can give ideas on treatment of a subject by different film makers and to ultimately decide the method of presentation. Some of the shots may also be relevant and useful and they can be used in the productions but the permission of the copyright holder is essential before using shots from others' films.

Film catalogues can only give a broad idea of the contents of a particular film. It can be known better by running a film on player at high speed. The editing mechanics have this facility but still it is a lengthy process. In India, the largest producing agency of educational films for higher education is the Consortium for Educational Communication working under the University Grants Commission. Their films are now distributed by Wiley Eastern Limited, New Delhi against a nominal price but their catalogue gives a very broad idea about the programmes in around 100 words only. So far there is no established practice of assigning Keywords or standardized subject headings to the productions so that one can retrieve information on the desired shots or atleast about the complete productions.

In the film and television libraries, the range of materials is very high and if the information systems are proper and one searches long enough there may not be any difficulty in getting the desired information. But there are some shots that are impossible or atleast extremely costly to secure. News departments usually have special libraries which take care of the archive materials and supply them to the department when it is needed again. But it is for the film maker to make sure that the desired shot is available in the library during the early

stages of planning for a production. In India stock shots can be purchased from many agencies now. Doordarshan preserves the shots of archival value which are available for Rs. 1,500/- per minute. Similarly, there are other agencies, private as well as governmental who sell their stock shots. The Mass Communication Research Centre at Jamia Millia Islamia can also be contacted for the desired shots. But still there has not been any organised effort in compilation of their reference sources and distribution. Obviously, there are more difficulties in using archive shots in video than in film and it is because of the prevailing crises of standardization in video. A shot on VHS will lose its quality if transferred onto U-Matic as it has a superior quality hardware. Likewise it is not advisable to use a U-Matic shot in a Betacam production. It is not always necessary to prove that the particular shot is an integral part of a film. Sometimes the message is more important than the medium.

Audio Sources

Just as a filmmaker selects and uses visuals already available, he or she may also use the pre-recorded music. The choosing of an appropriate music is an art in itself. It is not permissible to take recordings from radio and TV and to use them freely. The recording of music is a costly affair as it involves musicians, composers and arrangers. It is always expected to pay royalty for the music and use it after. There are numerous agencies in India too where the desired music can be selected, notable among them are All India Radio, Gramophone Company of India Ltd, Music Today of M/S Living Media India, etc. Another kind of sound used in productions is sound effect. They may be procured from the BBC or EMI or produced locally depending upon the nature of the event to be synchronized. Sound can also be selected from the completed film or video productions.

Electronic Sources

(a) Information Networks

The most significant electronic sources of information are the Information Networks and the CD-ROMs. One can search in a local environment through a Local Area Network or from the international databases sitting comfortably at his place of work by establishing contact with the host computer located in any part of the world. This is achieved with the help of a computer, a frequency modulator and the telecommunication links all connected together. Once the contact is established

with any database, whether regional or international, the interaction may be followed for the desired information. These services are being offered now on commercial basis too. In order to ensure economy in search, the help of a professionally qualified person in the information area is obvious as the standard search terms are coined to interact with the databases. Recent trends in assigning Keywords and using uniform data input formats show signs of hope in this direction. If needed, the information thus retrieved can be downloaded from the host to the local computer and utilized whenever required.

(b) CD-ROMs

CD-ROMs no longer deal with storage and manipulation of the textual data. Now, they are invading the territories of audio and video with the same speed as of the print world. (*Educational Media International* March 1993). There are a number of information sources which have directly emerged on CD-ROMs rather than on paper. Great economy is involved for libraries in opting for them. CD-ROM is particularly useful for larger libraries and research institutions. One may have reservations on installation of the CD-ROM facility in Indian circumstances because of the initial cost involved. But what is important is that it involves only one time expenditure on hardware and then the facility runs far cheaper. The *Encyclopaedia Britannica* is available for \$ 80.00 only on CD-ROM whereas it costs Rs. 30,000/- on paper. This is hardly one tenth of the expenditure which every moderate library is supposed to make. Further the search time is reduced miraculously in CD-ROM. Hardly any major field of information remains untouched today by the invasion of CD-ROMs.

(c) Multi-media

Multimedia is the result of advancement in the compact disc-based technology. In the coming 10 years this may supersede all the existing systems of storage and display of information because of its several advantages. One multi-media disc can contain more than 75,000 photographic images, more than 16 hours of audio and the equivalent of 30,000 pages of text (*AV Video* December 1992). One can imagine how economic it will be in terms of the space required for housing the equivalent information on paper. Further, the multi-media player which earlier consisted of several boxes including a monitor, a computer and a disc player can now be held comfortably in a briefcase. Such portable systems are already being marketed by Sony and Phil-

lips Corporation. Over 200 titles are available on multi-media discs now. This includes the general reference materials as well as the discs dealing with specialized disciplines. One such disc is entitled 'AV Online' which can be of great use to the educational film makers. AV Online is a product of the National Information Centre for Educational Media. It is comprehensive database of educational audio-visual materials including video tapes, films, audio cassettes, filmstrips, etc. AV Online contains documentaries as well as instructional, informational and recreational programmes. Materials are in English, Spanish, French, German and 60 other languages. In India AV Online can be procured through Faxon Informatics Limited, Bangalore.

Conclusion

The advancements in technology have benefited the process of imparting education with the advent of educational films. A film exploits the senses of sight and hearing by communicating messages in the forms of video and audio. The vast amount of information needed for production of a film is gathered from many sources. It seems that in the times to come the electronic sources will be put to greater use by the makers of educational films since these sources are capable of holding a larger body of information in varied forms of communication media.

UNIVERSITIES AT THE BOOK FAIR

The Association of Indian Universities (AIU) will display publications of the member universities/institutes and those of its own at the 11th New Delhi World Book Fair being organised by the National Book Trust (India) at Pragati Maidan, New Delhi from February 5-13, 1994.

The AIU will also bring out a consolidated catalogue of all the publications displayed at the World Book Fair for distribution among the potential buyers including the Universities, Research Centres/Laboratories, etc. in the country.

You are welcome to visit AIU Stall — Nos J 18-21 in Hall No. 18.

Transactional Teaching Learning Process (TTLP)

Practicability and Impact

R.P. Shukla*

Introduction

Teaching may be described as a series of acts carried out by a teacher and guided by the formulation of teaching tasks in a formalised instructional situation. Teaching behaviour by its very nature exists in a context of social transaction. The acts of teaching lead to reciprocal contacts between the teacher and the students and the interchange itself is called teaching. Researches have predicted higher student achievement and more independence when teachers use the indirect approach such as the teacher becoming facilitator, helper, motivator and co-ordinator of learning. Teachers behave in different ways and therefore, there are different types of classroom transactions. The process of encoding and decoding, establishing the process of communication in the classroom, shows the pattern of teaching and learning. To the extent a teacher can make the process of encoding and decoding reciprocal, the extent to which a teacher is able to make communication process transactional in nature will lead students to independent learning and knowledge generation stage.

To make teaching-learning process transactional, a teacher may be required to have basic knowledge and understanding of the communication process. Communication model involves an informational or interpretive process in which messages, information or reaction to information travel from the initiator to the receiver through the route called communication channel. The message conveyed by the teacher may be verbal or visual and the receiver may listen, see or examine and react in other ways. The communication channel in the classroom should ideally carry both messages and counter-messages. Usually the more varied and appropriate the sources from which messages originate the stronger and more valid will be the responses and counter messages that occur between the teacher and students or among students themselves.

Communication Process

The communication process involves four components : (i) Sender or source, called encoder, (ii) Message or information or signal, (iii) The medium or channel of communication, and (iv) receiver or decoder.

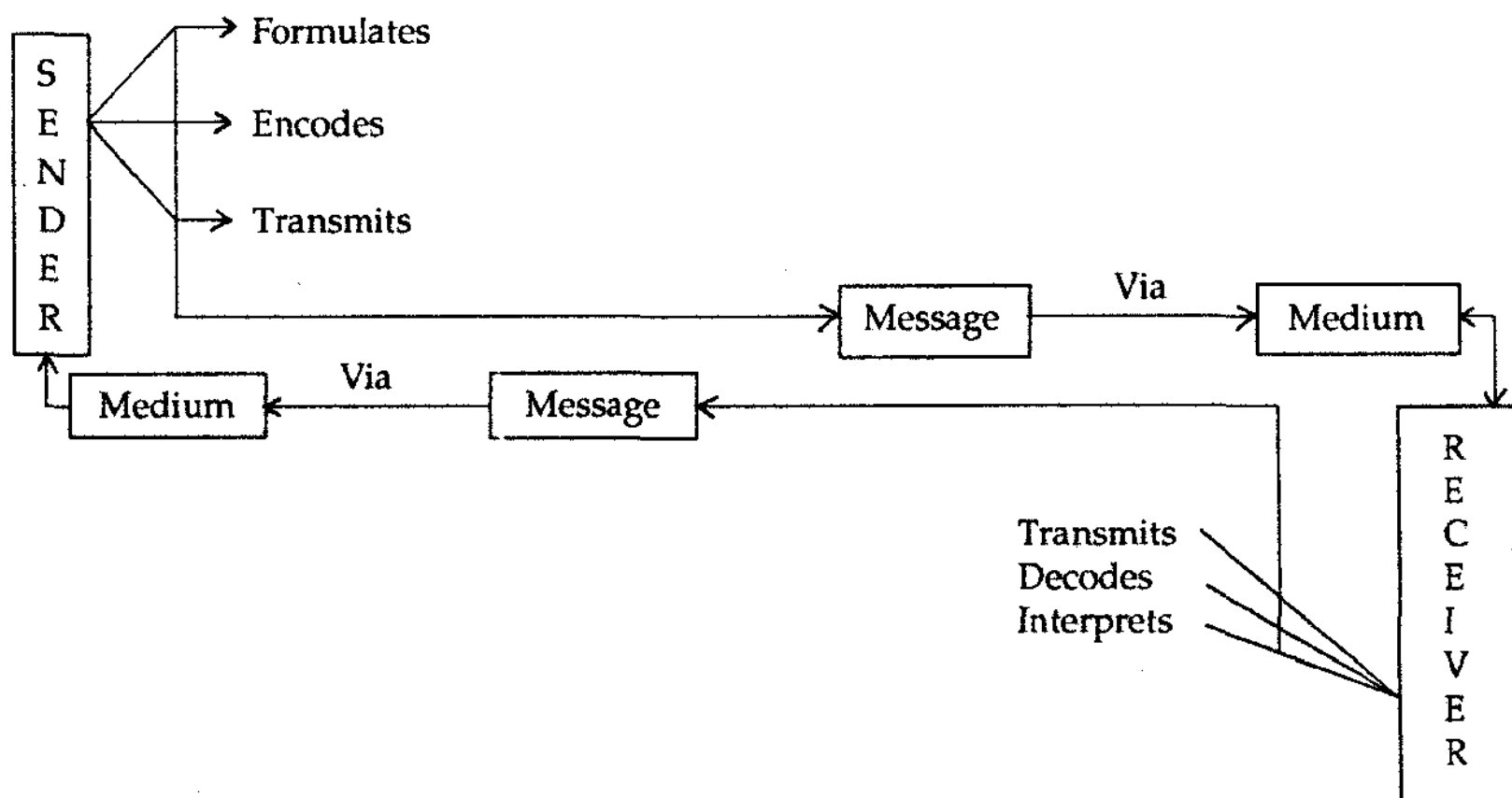


Fig. 1 - A Communication Model.

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In this process the message can be designed for a single person or a group of people. It can be conveyed by expressions, gestures, spoken or written symbols or by hand-drawn or photographic pictures. Every medium exerts its influence and its peculiarities on the message and in this sense becomes a part of the message. The receiver must understand the message or must decode it or interpret it and must produce desired response. This is called the feedback channel.

Instructional Communication

Instruction is the arrangement of information to produce learning. The transfer of information from a sender (Source) to a receiver is called communication. Effective instruction cannot take place unless communication takes place. It is therefore, helpful to know something about the communication process if we are to use instructional media effectively. Communication takes place only where the sender's and receiver's fields of experiences overlap.

Success of the instruction will depend upon the selection and encoding of curricular content into meaningful elements to achieve learning objectives. In other words, success will depend on teachers' skill in encoding elements that are meaningful to students (the receiver) and on students' skill in decoding them. Obviously, if the content information is within the field of experience of both teacher and students, the opportunity for successful communication is at its optimum. Instruction is communication designed to broaden and extend the field of experience of a learner. Material presented to a student should be within his/her field of experience to learn what is needed to be learnt but outside enough the field of experience to challenge and extend beyond the students' field of experience.

There will be times when the learning task (message) may not be within the field of experience of the teacher. When this occurs, both, teacher and student seek to extend their respective fields of experience, and most effective learning takes place when teacher and students seek answers together. If feedback indicates that instruction has been less successful, the following may help to identify the sources of problem and suggest remedies :

If noise (barrier) unduly interfered, instruction can be repeated under more favourable conditions.

If message is not encoded properly identify more suitable materials.

Transactional Communication

Communication is an interpretive transaction between or among individuals. The sender (teacher of a message encodes it according to his or her skill and knowledge — field of experience) and the receiver (student) decodes it according to his/her field of experience. In feedback process, however, the receiver does more than decode the message. He or she must also encode his/her interpretation of the message for relay back to the sender (teacher), who, in turn, must decode it. In effect sender becomes receiver. And both interpret the message according to their fields of experience.

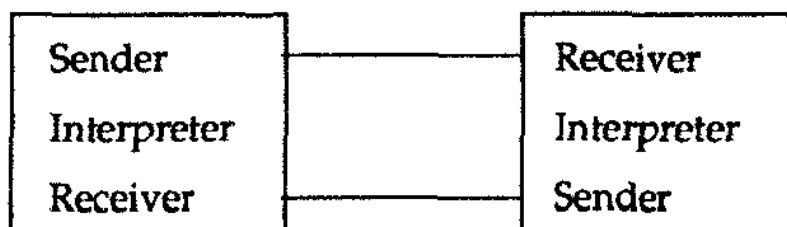


Fig. 2 A Transactional Model of Communication

This model shows that during human communication when receiver responds to the message, he becomes the sender and vice versa. And both sender and receiver interpret each other's message based on their past experience.

Teacher's Role

The quality of teaching-learning is directly linked with the quality of teachers. The teacher has to deal with adult minds to generate new knowledge. The teacher must never cease to grow himself/herself. Knowledge is advancing in all its spheres at an enormous pace and techniques of communication are being revolutionised continually. Lest the teacher should lag behind, he must be equipped more and more in respect of both contents and communication skills. This is why it has been rightly realised that unless we have teachers of right type, that is teachers who not only possess the necessary academic qualifications but also have competence and skills of communicating to the students and receiving communication back from the students, all our plans and efforts to make colleges and universities as centres of higher learning and knowledge generation will have little chance of success. Performance of a teacher in the job is the result of his content mastery, skills of communication and aptitude. Transactional communication which determines teacher's effectiveness, provides maximum opportunity to a teacher to produce expected result on the part of students.

The teachers' role is changing. As new re-

sources for learning become available, many of which are designed for individual use, new options for instruction are offered. New concepts such as teaching in teams, individually prescribed instruction, and automated learning compel teachers to vary groupings of students. A teacher is rapidly becoming a director, or facilitator, or coordinator of learning experiences. If a teacher is to play the role of a learning and knowledge generation coordinator successfully, he or she must possess the basic knowledge and concepts of :

- (i) Subject matter area
- (ii) Student's field of experience
- (iii) Transactional communication skills

In the present age of scientific and technological advancement, use of technology is becoming a prerequisite for a teacher to be an effective teacher in order to have better communication in the classroom and to meet the challenges of knowledge explosion and population explosion. In a country like ours, where most of the colleges and many university departments are deprived of even simplest technological devices and facilities, the teachers' role becomes all the more important and teachers are expected to be more resourceful and innovative, so that ultimate objectives of higher education are realised. The teachers are expected to keep pace with the new developments in terms of approaches and techniques, making learning self-directed and individualized, maybe without involving hardware approach to technology but by using software and systems approaches positively.

Transactional Teaching-Learning Process (TTLP)

The present paper presents a new approach to teaching-learning at higher level, where technological gadgets and devices are not available. In this design, teaching-learning process is extended to three levels. At each level, efforts by the teacher are made to keep communication, a transactional and learning, a self-learning and individualized. The teacher's role changes from mere information giver to facilitator or director or counsellor or initiator or coordinator of learning.

Through Transactional Teaching-learning process (TTLP), the teacher organizes the experiences of students in a way that helps them change their performance in a meaningful way. At different levels of teaching-learning process (Table-1), a sequence of activities is organised in which a student encounters materials, views, resources, etc that have a direct effect on achievement of mastery of the task. This also helps students integrate prior

experiences and improves the relationship between concrete and abstract learning experience.

The TTLP discussed here involves various teaching modes, as large group/small group tasks and lecture-cum-discussions, assignments (small group/individual), projects, seminars, search for relevant materials from different sources etc.

The author has practised TTLP with postgraduate students (Education) at the Department of Education, North-Eastern Hill University, Nagaland campus, Kohima for last five years. North Eastern Hill University has semester system at P.G. level. P.G. course consists of four semesters. Each semester is generally completed in four months of effective teaching.

Teaching learning process carried through transactional communication mode is presented in Table-1.

The effectiveness of TTLP was found significant in terms of student's academic achievement in the examination, quality of deliberations in the seminar and classroom and positive attitude towards teaching profession. The impact of TTLP on students is based on teacher's observation without using any statistical technique and the result of the examination. Students admitted to M.A. were B.A. (Honours) or B.Ed. with IInd division. The result of M.A. Examination shows that 50 to 70 percent passed M.A. with first division and rest passed with second division but very close to first division.

These result data (Table-2) itself is indicative of the effectiveness of the Transactional Teaching Learning Process approach.

Another significant impact of TTLP on students was in the area of expression, communication skills, interest in reading quality books and change in their attitude. There was a remarkable improvement in raising questions, adding ideas and making genuine suggestions on various points related to their courses, while moving from semester Ist to IVth. By the end of IVth Semester, students were able to think independently. Thus their field of experience was enriched. The employment data of students who passed out M.A. (Education) in last five years shows that majority of the students preferred to join teaching profession, whereas students of the earlier years preferred jobs other than teaching. Thus TTLP did generate positive interest and attitude among students towards teaching profession. And in that way interested people with aptitude for teaching

are attracted towards cause of higher education.

Conclusion

It may be concluded that a teacher at the higher education level must acquire mastery of content, communication skills and should have knowledge about background, nature and interest of students, in order to implement transactional teaching-learning approach for the realisation of the objectives of higher education.

Teaching through TTLP approach will make significant improvement in academic and social achievements and power of expression and attitude of students.

Adoption and implementation of Transactional Teaching Learning Process approach require of a teacher :

- 1. Understanding teaching-learning as communication and transactional in nature.
- 2. Basic knowledge of the communication process.
- 3. Mastery of the content and understanding of students background and level.
- 4. A sequence of learning activities in which a student encounters materials, views and resources to achieve mastery of task e.g. lecture cum discussion in the classroom, assignments, and seminars, should be arranged.
- 5. Involvement in teaching-learning process. Indirect approach of teaching by adopting role of facilitator, helper, motivator and coordinator of

learning so that learning becomes self-directed, individualized and knowledge generating.

- 6. Acceptance of students as an active and equal level partners in teaching-learning process.
- 7. Honesty in providing feedback to students and receiving feedback from students;
- 8. Tolerance for students' non-intentional behaviour (which may not be pleasant to teacher)
- 9. Encouragement to students for interaction with learned persons from various fields.
- 10. Motivation to students to develop personal library and to provide reading materials which are beyond their reach.
- 11. Skills in planning of teaching and learning activities.

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Table-1 Showing Transactional Teaching Learning Process (TTLP)

Group	Place	Time Table	Activity (Teaching-learning)	Communication cycle	Implication for Students	Duration
M.A. (Education) Students	Class-room	At least four days per week 60 mnts per day	I. Ist Level Lecture-cum-discussion - review by the teacher with the help of students - presentation of new information/concepts by the teacher - Question-answer Teacher↔Students - presentation of views by students - Teacher's response	Transactional verbal ↑ ↓ Verbal	Readiness to learn - Interest in learning generated - Self initiation - Self motivation - Self learning - Sense of achievement	(50 Pds) 60 Minutes each

			- Direction to students for further study. - Sources and references made available to students by the teacher.		- Motivation for further learning	
			2.IInd level			
Sub groups : Each consisting of 3 students (grouping is based on common interest	Class room : Teachers room Laboratory Library Resource room Home	Twice a week	Assignments (2 in each course in each semester - there are 4 courses in each semester) - Various topics/areas introduced to students by the teacher, - Students (Sub-groups) had freedom to select topics - Each subgroup was given a single topic for assignment. - Members of each subgroup were either to complete their assignment jointly or to divide the topic in to sub-topics and to complete individually - References, resources, activities etc were explained and direction was provided by the teacher. - Discussion during assignment activity was held. - Feedback provided by the teacher - Self assessment of the progress by students. - Further direction to students by the teacher. - Evaluation of the assignment by the teacher - Written comments by the teacher were given - Discussion as per need was held - Final remarks and directions were given for modification of the assignment - Modified assignments were submitted. - Final evaluation was done by the teacher	Transactional Verbal ↕ Verbal Verbal + Written ↕ Verbal + Written		120 mnts Through out a semester
			3. IIIrd Level Seminar			
Individual Student or Sub-	Seminar Hall	2-4 days in a Week	- Different topics other than assignment topics, were introduced by the teacher - Students or subgroups were asked to select two topics			120 mnts

group of two Students	- out of the list introduced - Design and planning of seminar papers were explained by the teacher - Related materials and references were introduced by the teacher - Students' individual problems were solved through guidance - Rough draft of the paper was checked and comments with references were given for modification. - Modified paper presented in seminar - All the members of the faculty and students were participants - Thorough discussion of papers was done by students and teachers - Students were given total freedom to express their ideas, raise questions - Teachers other than course teacher, were to give their views on different issues raised. - Thus students were benefited by various expertise in the field - Concepts were cleared and suggestions were made for further readings.	Transact -ional Verbal + Written ↑ ↓ Verbal + Written	- Opportunity for collecting, collating and expressing information - Synthesis of various views to clarify concepts - Independent thinking - Expression (writing + verbal) before larger group - Equality of opportunity for discussion - Sense of self satisfaction - Self evaluation of learning.
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Table - 2 M.A (Education) Examination Result (1988 - 1992)

Year	Total No of students appeared	Total No. of students passed with 1st division	Passed with 11nd Division
1988	6	3	3
1989	7	4	3
1990	9	7	2
1991	13	10	3
1992	13	9	4

Counselling in Distance Education

R.K. Mithal*

The counselling sessions for the distance learners are conducted at the study centres on weekends and holidays by the academic counsellors generally drawn from the departments of conventional universities and colleges. The learners usually consist of a heterogeneous group, viz., different academic and social backgrounds, age groups and occupations whereas the students of the conventional learning institutions do not show this much disparity. It should, therefore, be clear to every counsellor in the beginning that counselling in distance education is altogether different from the regular classroom teaching in the conventional system. The number of contact classes in the counselling session available in any course are much less than the teaching periods generally available for teaching a particular paper in the conventional system. Hence, it may not be possible for the counsellor to cover the entire syllabus of a paper in the counselling session. The contact classes are meant for counselling only.

To make the counselling session more effective and purposeful, every counsellor should try to know his students individually and intimately. The counsellor has to treat his pupils with great affection, warmth and patience. The students must be asked to note down the difficulties while going through the text of the units. The difficulties should be properly and systematically arranged before coming to the counselling session. They should be given an opportunity to express their difficulties, problems and limitations during the learning process of the study material. The main duty of the counsellor is to help the students to get over such problems.

Since the text of the science subjects is hierarchical in nature, it becomes necessary for the student to understand the contents of the previous unit. The counsellor should therefore put emphasis and motivate the students to attend all the counselling classes regularly.

The counselling plan should be prepared by every counsellor for the whole year and inform the students about it well in advance. This plan includes dates and time of counselling, name of the course, name of the unit(s) covered during a specific counselling class and reference to course mate-

rial unitwise and contentwise etc. If the counsellor plans his time-management, he would greatly benefit in counselling session. Hence, time schedule becomes an important aspect of academic counselling. Consequently, it would motivate the students to read the contents of the unit beforehand and come well informed to attend the counselling classes. The counsellor should give preference to the important and difficult parts of the unit over other aspects. It becomes essential for every counsellor to understand the programme structure, papers and the type of questions likely to be asked during the counselling session.

There is a great necessity to make use of the figures, diagrams, equations and derivations in science counselling. Generally, the counsellor requires great part of his counselling time in drawing figures or to derive a derivation and if he starts doing it a sizeable proportion of the counselling time would be spent. It is, therefore, suggested that pre-drawn figures, equations and derivations on rolling black boards should be used. During the discussion of different aspects of the unit, attention of students must be drawn to these figures and equations, etc. At the same time some teaching aids, viz., models, charts, pre-set experiments, museum specimens and slides may also be used to save time. It is very important for every counsellor to prepare his own assignments unitwise or blockwise. Such assignments would be other than the assignments of the university. These assignments would help the students in self assessment.

It becomes obligatory on the part of the counsellor to make use of the audio and video programmes of the university to supplement his counselling. The counsellor should also announce the date and time of the radio/television lessons related to the unit covered in the counselling session.

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Perspectives in Bioinformatics

A three day 'Workshop on Perspectives in Bioinformatics' was held at the Pondicherry University under the auspices of the Department of Biotechnology, Government of India and the Pondicherry University.

Inaugurating the workshop Prof. A. Gnanam, Vice-Chancellor of the University, urged the participants to come forward to use the electronic media to get information. The rising cost of books and journals and delay in their receipt had left us with no option but to look for the electronic media which in many ways was superior to the conventional print media, he added.

During the course of the symposium the participants were introduced with the basic knowledge about computers and bioinformatics by Prof. S. Kuppuswami and Dr. K.V. Devi Prasad of Pondicherry University. Dr. Margaret Biswas of the Indian Institute of Science (IISc.), Bangalore discussed molecular modelling with special reference to protein and carbohydrate modelling. Mr. N.V. Sathyanarayana of Faxon-Informatics, Bangalore, in his talk, introduced the participants to "on line" and "off line" databases. He also demonstrated the connection to DIALOG database, which is stored in U.S.A. He retrieved information about papers introduced in various databases from Pondicherry. He said that many of the full journals were covered by some of the databases, which could be retrieved just after publication with a limited cost.

Prof. K. Dharmalingam of Madurai Kamaraj University narrated the various objectives and future plans of the Biotechnology Information System. He delivered a talk on over-expression of some proteins. He showed the interesting crystallographic data. Dr. Margaret Biswas of IISc., Bangalore showed the nucleic acid databases and their usage. She elaborated three phases of human genome project and six steps in analyzing the DNA sequences. In the 'hands on' demonstration session she explained that the skills were searching data bases for gene sequence and desk top molecular modelling of monosaccharides, amino acids, lysozymes, etc. Dr. M.W. Pandit of Centre for Cellular and Molecular Biology, Hyderabad gave a talk on 'Biotechnology Related Information Resources : Present Status and Future Trends'. He demonstrated the use of different databases in various aspects of biotechnology. Dr. R. Raveendran of the JIPMER, Pondicherry, demonstrated a software developed by him which would help understanding various pharmacological experiments without actually using animals.

Dr. M. Jinandra Doss of the Central Drug Research Institute, Lucknow showed the design and development of marine flora and fauna database. Dr. M. Kalyanasundaram of the Vector Control Research Centre, Pondicherry, explained the computer applications for quantitative structure — activity relationship in pesticide design. Dr. P. Kaliyannan of the Bharathidasan Univer-

sity, Tiruchirapalli discussed various crystallographic databases. Mr. Shanmugam Ramesh Kumar of the Biotechnology Consortium India Ltd (BCIL), New Delhi explained the commercial exploitation of the Biotechnology information and establishment of industry-institution interaction.

About 50 participants from all over the country participated in the workshop.

Bangalore Varsity Convocation

The Union Minister for Human Resource Development, Mr. Arjun Singh said that it was imperative for higher education institutions to consider measures to generate internal resources and improve cost-efficiency in view of the resource crunch. He was delivering the 29th annual convocation address of the Bangalore University in Bangalore recently.

Mr. Singh said while the university education system was fulfilling its objectives, the time had come to take stock of the issue of providing adequate support and resources to maintain the infrastructure and establishment at a level whereby academic institutions functioned smoothly and relevant to the education system.

Mr. Singh said the Government was trying to evolve rational norms to provide grants to the universities taking into account factors such as per-capita cost, teacher-student ratio, courses offered, costing of services and the extent of their subsidisation. As formulating national norms would take time, it was necessary for universities to

undertake an exercise to prune their expenditure and improve the efficiency of the various services and departments, he said.

It was also imperative that a conscious attempt was made to link research work to the needs of the economy and industry so that resources could be raised through research projects. This did not amount to any kind of privatisation of the university system, Mr. Singh said. The reality was one of limited resources and it was up to the universities to act in a positive and constructive manner so that academic institutions were not dependent totally on the Government for resources, he added.

In his welcome address Dr. N.R. Shetty, Vice-Chancellor said the University library was being computerised with assistance from the University Grants Commission.

National Fund for Education

A national fund for education on the lines of the IDBI was a necessity today, as the Government was unable to offer adequate resources, said the Anna University Vice-Chancellor, Dr. M. Anandakrishnan, in Madras recently. An Educational Fund of India functioning with monetary efficiency and having a capital base of Rs. 1,000 crores for the entire country would be desirable, as a long-term funding arrangement for higher education, he said, addressing the engineers of the 1968 batch of the Guindy Engineering College, Anna University.

The current liberalised scenario would give flexibility to technical education, and it should help institutions address themselves to the requirements

of industry and upgrade the manpower training. Anna University was doing this for the sugar industry, and was pursuing projects in relation to aquaculture and the needs of units in the Ambattur industrial estate.

Individual technical colleges could think of creating a corpus fund to ensure smooth growth.

Dr. Anandakrishnan wondered whether private technical education colleges were keeping pace with the developments, considering that they chose 'soft options' while starting courses. For instance, computer science was preferred but not chemical technology, because the latter involved more investment to create the infrastructure.

To give wider exposure to its students, Anna University was creating a campus cable network to screen satellite TV and educational programmes in hostels and at select points.

Prof. K.S. Hegde, former Principal, College of Engineering, dedicated to the college, an air-conditioned 'Hall of Guines-68' built in the production engineering wing, by the alumni. He commended the effort of the alumni, as a fitting tribute to the alma mater.

IGNOU Staff Colony

"The most important development of the 20th century is the emergence of education as the single most important tool for converting a developing country into an advanced one," said Mr. Arjun Singh Human Resource Development Minister in New Delhi recently. He was laying the foundation stone of the staff housing colony on the new campus of Indira Gandhi National Open University (IGNOU).

Mr. Singh said that today

what made the difference between an advanced country and a developing one was the ability of the former to master science and technology, create knowledge and apply it for the development of society. This calls for provision of the highest education for a few who will be able to create new knowledge and make it applicable to the needs of society.

"We also need basic education for all who will be able to absorb whatever knowledge is generated for day-to-day application," he added.

The Minister emphasised that distance education really makes use of all the important developments that have taken place in the field of communication technology. Conventional system had not been designed to tackle education at such massive dimensions, he said.

The HRD Minister was happy to note that the admission strength of IGNOU which started with 4,381 students in 1986-87, is well over 2,00,000 now. He was also impressed with the fact that with 44 academic programmes, IGNOU has 220 study centres, 16 regional centres and 10,000 co-ordinators, assistance co-ordinators and counsellors.

Prof. V.C. Kulandaiswamy, Vice-Chancellor of IGNOU in his welcome address announced that the Open Learning Institute of Hong Kong, which is an open university had adapted one of the universities management courses and acquired the right for five years at a cost of about 1,25,000 HK dollars. The Commonwealth of Learning recently acquired the rights for using 30 of IGNOU's video cassettes in Commonwealth countries paying a royalty of Rs 30,000 per cassette.

Skill-Oriented Courses for Employment

'The main objective of introducing restructured and skill-oriented courses in colleges is to enable the learners to get themselves gainfully employed but not necessarily to train them for employment in any government organisation,' said Dr. K. Jayashankar, Vice-Chancellor of Kakatiya University. He was speaking as chief guest at the inaugural function of a ten-day programme on 'Inservice Training to Junior and Degree College Lecturers in Sericulture' organised by the Kakatiya University in Warangal recently.

Dr. Jayashankar felt that the restructured and skill-oriented courses offered by the institutions should have relevance to the needs of the economy and had therefore to be designed after having some idea about the manpower requirements of the society. Such courses could not be and should not be of permanent nature for their continuance in colleges, Dr. Jayashankar said and added that once the required manpower was trained and when it was realised that a saturation point had come, all such courses should be dispensed with.

Dr. Jayashankar further said that it was necessary to create awareness among the clientele about the terminal nature of the course, i.e. once certain skills were inculcated through a skill-oriented course, the students should strive for gainful employment and not necessary for prosecuting higher studies in the same course.

Emphasising the need for providing training to the teachers working in colleges and universities, Dr. Jayashankar said, teach-

ers' training — pre-service or inservice — was not known to the universities and colleges until recently. However, the UGC realised its importance and started offering short-term inservice refresher courses to the teachers through what were known as the academic staff colleges, Dr. Jayashankar said and felt that such training was particularly necessary for the teachers who were asked to teach skill-oriented and vocational courses.

Prof. Dinker Sirdeshmukh, Dean, College Development Council of Kakatiya University, who inaugurated the programme, stressed the need for introducing skill-oriented and restructured courses at all levels. He appealed to the Vice-Chancellor to take all possible steps for nurturing and strengthening the skill-oriented courses already introduced by the university in its colleges at the undergraduate and postgraduate levels. He expressed the desirability of having more and more number of restructured courses in combination with the conventional ones.

Prof. N. Chari, a senior faculty member of Zoology, who presided, said that Sericulture was a farmer-oriented course having some economic importance and Telangana with a lot of potential could take a lead for silk-revolution on the lines of green revolution and white revolution. He opined that Kakatiya University should have service-oriented information centre to take care of the problems of farmers engaged in sericulture and serve as a link between the government and the farmers for a target or time-oriented development in sericulture with the help of the existing resources.

Dr. V. Narayana, Joint Secre-

tary (Vocational), Board of Intermediate Education said that the government had so far introduced 26 skill-oriented courses with the central assistance at the plus two stage and complimented the Kakatiya University for introducing Sericulture at the postgraduate level as an independent diploma course.

JNU Honours Uzbek President

The Uzbekistan President, Mr. Islam Karimov, today said that he was against forces fundamentalism and chauvinism which, he said, were hostile towards establishment of peace and stability.

Mr. Karimov said similar forces of disintegration were threatening to violate the unity of India and extended all help in fighting such forces. He said he was against extremism of any kind be it religious or communist. "Our people are peace loving and they appreciate the aspirations of the Indian people in trying to live peacefully. Our fight is directed against fundamentalism and any assistance from Uzbekistan in this fight will be provided wholeheartedly," he added. He was speaking at the Jawaharlal Nehru University after conferment of the Honorary Degree of "Doctor of Laws" (Honoris Causa) on him.

Touching upon the reforms, he said that treatment of "shock therapy" practised by Russia was unacceptable to him. Enunciating factors necessary for development, he felt that the economy should dominate over politics and during the period of transition the State should be the principal reformer. He said that supremacy of the rule of law should be unchallenged and it should

treat the President and a common citizen equally.

While carrying on with economic reforms and development and moving from State-control to market-oriented economy factors like the rich past and age-old traditions cannot be ignored, he said.

The Uzbekistan President said the newly independent republic would strive to develop cordial relations with the advanced nations and world community. He said India occupied a special place for the people of Uzbekistan for the two countries shared a similar past and literary and cultural heritage. Referring to al-Biruni's travels in India, Mr. Karimov said the people of Central Asia and India could greatly benefit by learning from each other.

The citation, read out by Prof. Y.K. Alagh, Vice-Chancellor of JNU, described Mr. Karimov as "an illustrious statesman of our time." An engineer by profession, he joined the Uzbek State Planning Commission in 1966 and rose to become its Chairman in 1986. He was elected President of Uzbekistan by its Supreme Soviet on March 24, 1990 and re-confirmed as President in a directly contested election in December 1991.

"Inspired by President Karimov's ideals, Uzbekistan has today a new Constitution which firmly enshrines the concept of State secularism and guarantees a democratic multi-party system, freedom of expression and the observance of human rights. These are also the values India has cherished and preserved since Independence, the citation said.

Prof. Alagh expressed the hope President Karimov's visit to the JNU would be a step forward in building the foundation of a common understanding of problems.

The JNU Chancellor, Mr. P.N. Haksar, a distinguished diplomat, faculty members and members of the diplomatic corps were present.

INSA Diamond Jubilee

The Indian National Science Academy, (earlier known as the National Institute of Sciences in India), is celebrating its Diamond Jubilee. As part of celebrations the Academy recently hosted an international symposium on "Recent trends in Life Sciences" at the National Institute of Immunology. During the year-long celebrations, the Academy would bring out a number of status reports and special publications.

Also, national and international seminars would be organised by 19 local chapters of the Academy in different parts of the country. The concluding function will be held on January 7, 1995 synchronising with the international seminar on Sustainable Management of Natural Resources in which representatives of the collaborating Academies from all over the world will be participating.

Speaking at the inaugural function organised in New Delhi recently, Prof C.N. Rao, Director, Indian Institute of Science, Bangalore said, "There is a crying need for completely restructuring our scientific and educational institutions. The entire system is corroding from inside leaving many of our scientists disenchanted and despirited." He said

the tenancy of the scientific edifice should be of the highest calibre so that the "mansion is built more beautifully."

Prof. Rao decried what he termed the "pre-historic rules" followed by the scientific institutions and said Government domination of these institutions must end. "There has to be a major overhaul of the system including restructuring of the bureaucracy and respect for human values."

He expressed concern over the ever-widening gap between the standard and sophistication of experimentation in India and developed countries and said modern industrialisation cannot be brought about by "lousy" infrastructure.

The nepotism and mediocrity found in our institutions came in for severe attack. "We have lost many things in substance. We have just kept them in form," he said. There was tendency among scientists to brush aside issues. "This tendency has to be checked as issues are of vital importance to the survival of science."

Prof. Rao criticised the paucity of funding in crucial areas, disproportionate funding in many key sectors and marginal contribution of Indian scientists to basic science. "The tremendous contribution in getting research papers published has left India wanting in several fronts," he added.

Stressing the need to be "clear-headed," he said we should not be carried away by GATT and lose our hold on science. Research in S&T is based on ideas and not heavy investment. "While we have to deplore fraud

and mediocrity, we have to work together as a community," he said.

It was just the right time for the Government to come out with an S&T policy in the form of a white paper, he said. "The policy should be such that it should mobilise the scientific community and bring it in partnership with industry."

Speaking on the occasion, the former Defence Minister, Dr. Raja Ramanna said, "We are still transitting between the education of the British age and our own interpretation of education". He said teaching had to be a reflection of society as it will "determine" the future.

Prof. V. Ramalingaswami, former President of INSA, said they had to identify sectors of the economy which could be influenced by science so that the maximum benefit is realised. "Cursing GATT will not help. Curing the malady created by GATT through targetted scientific endeavours should be the need of the hour."

Emphasising the need for minimum, gentle bureaucratic control, he said the edge this country had in S&T, which had been lying dormant for a long time, has to be activated. "Discovery and application should go together along the cutting edge of economic advance."

Dr. A.K. Sharma lamented there had been a serious erosion of moral and ethical values in society jeopardising the future of science. Another past President, Prof. A.K. Paintal, said we had to abandon illusory achievements and "have more substance in our talk than veneer".

An academician, who has also been associated with the Academy, Prof. M.M. Sharma,

said the Academy should come out with a policy paper on university research as a whole. He found that the increasing resistance of other countries to share technology with India should give a forward thrust to indigenous research.

Prot. P.N. Tandon said science could no longer be treated as a pleasant diversion of an intellectual elite. "The Government is in no mood to seek unbiased opinion as they are being dictated from outside. We must redeem the vision of our founding fathers by emancipating the people."

Eminent scientists from all over the country, agreed that it was imperative to consider remodelling the basic infrastructure provided for science education in the next century.

Presenting an 'Overview of science education in India' at a seminar organised by the Indian National Science Academy (INSA), Professor Yash Pal, former chairman of UGC, said it was necessary to develop an inter-disciplinary atmosphere. An information library network was needed for the exchange of ideas and information, vital for improvement in the education system, Prof Yash Pal felt, pointing out that at one time there were at least a hundred scientific institutions that did not subscribe to even one foreign journal.

He said that people from outside the country should be allowed to come and set up new elite institutions. Professor S.V. Kessar of Panjab University, who is also vice-president of the INSA, was of the opinion that establishing universities funded by outsiders like NRIs was a good idea, provided it was not isolated from the existing university structure and faculty. Prof. Yash Pal concluded by calling for the development of science and

technology which have the imprint of India "by including the knowledge embedded in the hands and brains of native craftsmen, medical practitioners using herbs and plants, and others, in the courses that are taught in our institutions."

The welcome address was given by Professor S.K. Joshi, President, INSA and Director, Centre for Scientific and Industrial Research. Professor R.P. Bambah, ex-vice-chancellor of the Panjab University, who moderated the discussion urged the scientists present to recommend practical suggestions. Professor B.M. Dey of the Panjab University touched upon the need for quality university education to develop scientific talent, while Professor P. Balaram of the IISc, Bangalore, discussed the present state of research in academic institutions.

BCKV Hosts East Zone Youth Festival

The Bidhan Chandra Krishi Vishwavidyalaya, hosted the ninth Inter University East Zone Youth Festival on December 22-26, 1993 in which about 600 participants from 18 universities from Eastern Uttar Pradesh, Madhya Pradesh, Bihar, Orissa, Assam, Manipur and West Bengal participated. The Youth Festival was sponsored by the Association of Indian Universities in collaboration with the Department of Youth Affairs and Sports, Ministry of Human Resource Development, Govt. of India. Prof. Satya Sadhan Chakraborty, Minister in Charge Higher Education, Govt. of West Bengal was the chief guest while Shri Kanti Biswas, Minister Incharge Information & Cultural Affairs, Govt. of West Bengal was the special invitee. Prof. D.K. Dasgupta, Vice-Chancellor, Bidhan Chandra Krishi Vishwavidyalaya pre-

sided. The opening song "TAMASO-MA-JYOTIRGOMOYO" sung in unison by students of host university marked the start of the Youth Festival.

The inaugural function was addressed by the Organising Secretary Dr. G. Sounda, Shri Sampson David, Sr. Cultural Officer AIU, Prof. Satyasadhan Chakraborty, Shri Kanti Biswas, and Prof. D.K. Dasgupta. Their main thrust was on National Integration and self reliance and the emergence of a truly sovereign India. The speakers also reminded the participants that cultural activities notwithstanding their diversity and forms, constituted a very important tool for such processes.

The cultural items started with Mime in which 11 teams participated depicting the Indian School of Mines putting up the question "Is this Literacy"? which was followed by Rabindra Bharati's "War Against Drug". Gauhati University presented "Robot". 'Save the Tree' was the theme presented by Poorvanchal University which clearly showed the concern of the youth towards environment. In addition, problems like terrorism, drug addiction etc. were also projected.

In the event of Skits, Utkal, Indian School of Mines, Manipur, Rabindra Bharati, Bidhan Chandra, Poorvanchal Universities participated and the topics were multifarious: "Sanghai" by Manipur, "Un ko Deha Ha" by Rabindra Bharati; "Bahre Samaj" by Poorvanchal and "Shrandhanjali" by Utkal.

In the on the Spot Painting session that followed Nishant from Vinobha Bhave painted Holi in the apt mood of the festival which was also the painting theme of Abhisekh of Bidhan Chandra Krishi. Light Vocal started with the performance

from B.R. Ambedkar participants. Sucheta Bandopadhyay from Rabindra Bharati stole the show with a traditional Bhajan from "Jamuna Kinarey". Deep of Ranchi University presented a Ghazal followed by regional flavours presented by Kalyani, Chitrakoot and Ravishankar.

The next items on the agenda were classical vocal solo, Group Song, One Act Play, and Rangoli.

Kalyani University's "Raga Malkauns", Manipur University's Raga-Gujritori in bivilambit Ek tal and drut tin tal, received a good applause. The host university presented Raga-Yoga. The performance of Ranchi, Vinobha Bhave, Rabindra Bharati and Chitrakoot were also appreciated. This was followed by the group song (Indian) in which Awadhesh Pratap Singh's song was dedicated to Vivekananda which helped the youth to recall the great social reformer. The presentations from Rabindra Bharati, Ranchi and Vinobha Bhave followed.

One Act Play session witnessed six plays. The play by Manipur students presented a commentary on the social system. Ranchi girls presented "Paramparad Ka Om Swaha", a harsh attack on the male dominated society. Rabindra Bharati's "Athasi Sukho" — describing a clash between old and modern concepts of culture was truly symbolic. Poorvanchal presented "Kaphan" — famous short story of Munshi Prem Chand.

Three teams participated in Western (solo) and Group events. The Indian School of Mines participants sang "where are you now?" Hey babe! Kanchan from Rabindra Bharati presented "A bachelor boy" followed by a presentation from Subhendu of Bidhan Chandra Krishi. In the

group event too Indian School of Mines presentation — "Eagle's living next door to Alice" was very well received. "One Love" of the two members sung by Bidhan Chandra Krishi was appreciated by all. Rabindra Bharati concluded the show with "We are in the same boat Brother".

In the Fine Arts section Collage & Cartooning participants' efforts yielded into a reality of thoughts on the paper and found the viewers appreciation. In the Cartoon section participants were asked to sketch on population control or draw moments of joy on the paper. Hero Cup victory also found its place in the moment of joy. Berhampur lads stole the show.

In the Quiz five teams faced audio, video and GK questions from Krishnendu Banik, a veteran of Youth Times, Calcutta Doordarshan. The main contestants, were Jadavpur, ISM and Gauhati.

In Clay Modelling Siddhartha Das of Berhampur and Arun Pandit of Patna displayed their skills in the art. Shri Krishna Das of Rabindra Bharati highlighted the present crisis of India-Integrity. The posters were embiaazoned and emerged with a vital message "donate blood".

Classical Dance presentations were marked by traditional costumes, electrifying movements of eyes, and ancient "Mudras". The folk dance was presented by 13 participating universities. Bihu from Gauhati, Holi from Patna and local dances from Awadhesh Pratap Singh, Pt. Ravi Shankar, Ranchi, Chitrakoot and Poorvanchal were well received.

A host of musical instruments, strictly of Indian 'Gharana' formed part of Classical In-

strumental (percussion & non-percussion) programmes.

The Overall Championship Trophy for the East Zone was

lifted by Rabindra Bharati University and Gauhati University while Runners Up Overall Championship Trophy was bagged by Berhampur University.

News from Agricultural Universities

Veterinary Varsity for Andhra

The consultative committee attached to the State department of Animal Husbandry, Dairy Development and Fisheries is reported to have recommended establishing of a veterinary university on the lines of the AP Agricultural University. This was stated by the A.P. State Minister for Animal Husbandry, Mr N Raghuvveera Reddy, who presided over the meeting held in Hyderabad recently. He said poultry farming, pisciculture, sheep rearing besides dairy development was assuming great importance in rural economy. Hence, the members had felt that there was need for a specialised university which could have different faculties devoted to specialised subjects.

The committee also felt that the dairy farmers should be paid for the milk purchased from them within 16 days. It was also felt that though there are 4,000-and-odd veterinary hospitals and dispensaries in the State, they were unevenly distributed. In some places where there are 1,000 to 2,000 cattle there is one dispensary or a hospital for one or two villages, whereas in some areas where there are 10,000 to 20,000 cattle or livestock, there is a hospital for 10 to 20 villages. To solve this problem, the committee recommended a more rational distribution of hospitals and dispensaries as well as fixing

of the quantum of cattle population per doctor.

Another suggestion of the committee was that banks which are advancing loans only to major poultry units, should also provide assistance to small units with 1,000 to 2,000 birds. As they were not receiving any assistance, the committee suggested that the government should impress on the banks and the NABARD to make financial assistance available to them.

Similarly, insurance cover is available to cattle purchased only through banks. It was urged that the government should strive to secure insurance cover for cattle purchased otherwise. The consultative committee felt that better and more efficient efforts should be made towards sheep rearing.

The committee felt that at present 5,000 houses are being built in coastal fishing villages but there are a lot of fishermen eking out their livelihood by fishing in inland waters and wanted housing facilities provided for them also.

The Animal Husbandry minister said the government had decided to constitute hospital advisory committees to the 4,000 veterinary hospitals and dispensaries and that a GO had already been issued to that effect.

News from UGC

Countrywide Classroom Programme

Between 25th January to 31st January, 1994 the following schedule of telecast on higher education through INSAT-ID under the auspices of the University Grants Commission will be observed. The programme is presented in two sets of one hour duration each every day from 1.00 p.m. to 2.00 p.m. and 4.00 p.m. to 5.00 p.m. The programme is available on the TV Network throughout the country.

Ist Transmission

1.00 p.m. to 2.00 p.m.

25.1.94

"Gravimetric Analysis : A Right Approach"

"Career Counselling : Vocational Education"

"Ayurveda

26.1.94

"Why History"

"Towards Modern Indian Architecture"

"Storage Fungi"

27.1.94

"Evolution of Himalaya"

"Spectral Properties in Geological Remote Sensing"

"The Life of William Shakespeare"

28.1.94

"Investigating Correlation"

"The Heavenly Handshake-IV"

"Counter Urbanisation — A New Trend"

29.1.94

"Concepts in Film History-II
Documentary Realism"

"No Mustaq, No Test"

"The Week Ahead"

30.1.94

No Telecast

31.1.94

"Light from Atoms"

"Human Resource Develop-
ment - V Training"

"Soil Testing"

Ind Transmission

4.00 p.m. to 5.00 p.m.

25.1.94

No Telecast

26.1.94

"Muddle Fuddle"

"Arboretum — A Nature
Home for Plants"

"Ashoka and His Times-I"

27.1.94

"Rheology -- The Science of
Flows"

"Shapes and Symmetry of
Molecules-I"

"Protect Your Creator : Big-
amy?"

28.1.94

"Question Forum"

"The Week Ahead"

29.1.94

No Telecast

30.1.94

No Telecast

31.1.94

"A Voyage into Matter"

"Human Resource Develop-
ment-II. Personnel Handle
with Care"

"Fish Culture and Breeding"

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Applications complete in all respects should reach the office by 7th
February, 1994. Applications received after the last date or without com-
plete information may not be entertained.

Translation Studies

A Punna Rao*

H.Lakshmi. *Problems of Translation (English and Telugu) : A Study of Literary and Technical Texts*. Hyderabad, Booklinks Corporation, 1993. Pp. 196, Rs. 200/-.

The present age is witnessing vast and wonderful changes on the globe due to science and technology. Knowledge is growing very fast. Some countries which are listed as developing are in a hurry to collect the same in their own languages. India is one of such countries and we have almost as many languages as the states we have. A single language which is connecting these people with so many languages is English for the present.

English is also a language of global character with rich poetry and prose. It contains scientific and technical knowledge abundantly. So translations from English into Indian languages are necessary. Many of the Indian writers wish to translate their works into English because that makes them known to the entire world. So the translation from English and into English is taking place in our country for the last few decades.

Here is a book revealing the problems of translation in general and suggesting the solutions thereby particularly for the Telugu language.

*Professor of Telugu, Nagarjuna University, Nagarjuna Nagar-522 510 (Andhra Pradesh)

There are six chapters in the book. The first chapter is an introductory one which establishes the growing importance of the translation in the last decades of this century and states that the translation is a science to be studied and it has a methodology to be adopted by the translator.

The second chapter presents the theories of translation along with the history of the translation. The authoress observes the success of ancient poetic translations from Sanskrit into Telugu and she correctly states that those were not mere translations but transcreations by the able scholars of both the languages, Sanskrit and Telugu. Then she reviews the early literary translations of the 20th century from English to Telugu and rightly concludes that Telugu language and literature have been greatly enriched through the translation from Sanskrit and English.

The third chapter deals with the translation of poetry. Some experts say "poetry is untranslatable". Others are of the view that poetic translation is an art not a science. A few object to any attempt to translate poetry into prose. After reviewing these and other opinions, the authoress analyses the English and Telugu translations, two from each language, with seven parameters

such as readability, competency, originality, etc for evaluating the translations correctly. Then she notes down the results by a graphic figure in a commendable way.

Chapter four is devoted to the translation of literary prose. The authoress quotes many a theory and states her opinion. Then she analyses three translations, two from English to Telugu, and the other from Telugu to English and evaluates them with the same good and dependable parameters stated previously without any hesitation or partiality, showing the results on the graphic figure.

Here linguistic problems such as grammatical differences, articles, honorifics, word order, clause structure, etc. are discussed vividly and some valid solutions to overcome those have also been put forth by the well read authoress. Here is an example. Nominal substitute 'one' of the English cannot be translated by its equivalent Telugu word 'OKA'. The equivalents of this 'one' in Telugu are pronominal suffixes such as 'waadu' 'Di', etc. But this essential fact, states the authoress, has not even been discovered by the compilers of the English Telugu dictionaries so far. The linguist in the authoress has rightly noted down this point.

Chapter five is concerned with technical translation. Translation of technical texts is easier than poetical ones. The authoress's statement that in technical translation, problems are less because a 1000 general terms

and a 1000 specialised terms are enough for the translation work provided the translator is competent in other matters such as fundamental knowledge of science and technology etc., is justifiable.

An analysis of the two selected textbooks, one "Science and technology" (English) and the other "Kamputarlu" (Tel-

ugu), has been successfully and carefully conducted and conclusions have also been drawn accordingly stating merits and defects of the translation.

The writer opines that in technical translation, transliteration for some of the important terms is a welcome feature and a perfect translation of a technical

text may not be very easy but is not impossible.

In Chapter six she sums up her views and findings.

Thus the book is well planned and neatly written by an able authoress. However there are a few printing errors which could have been corrected.

CALENDAR OF EVENTS

Proposed Dates of the Event	Title	Objective	Name of the Organising Department	Name of the Organising Secretary/ Officer to be contacted
February 19-20, 1994	National Convention on Automation of Libraries in Higher Education and Research Institutes	To provide a forum to discuss issues involved in library automation and networking of libraries	INFLIBNET Programme of UGC	Shri S.R. Thakore, Convenor, Local Organising Committee, CALIBER-94, INFLIBNET Programme, P.B. No. 4116, Navrangpura, Ahmedabad-380 009
March 23-25 1994	National Symposium on Applied Geochemistry	To provide a forum for Geochemists and other Geoscientists to share their research experiences and achievements made in this field	Department of Applied Geology, University of Madras	Dr. P. Periakali, Reader, (Convener) National Symposium on Applied Geochemistry, Department of Applied Geology, University of Madras, A.C. College Campus, Madras-600 025
May 8-12, 1994	1994 Pacific Conference on Distance Education	To share a Pacific perspective of distance education for present and future needs	The New Zealand Correspondence School	Mr. Lorraine Pells, The New Zealand Correspondence School, Private Bag, Wellington, New Zealand
June 1-3, 1994	Seventh Annual Conference of the All India Association for Educational Research	Theme : Innovations in Education	Foundations of Education, Jamia Millia Islamia	Dr (Mrs) G.M. Miyan, Reader, Department of Foundations of Education Jamia Millia Islamia, New Delhi-110025

THESES OF THE MONTH

A list of doctoral theses accepted by Indian Universities

HUMANITIES

Philosophy

1. Bhattacharya, Ratnabali. Kant's critique of taste with special reference to the concept of disinterestedness and its bearings on recent Indian thought. NBU.
2. Gupta, Siddhartha. Bharatiya darshan - Cintaye man. Visva-Bharati.
3. Pandit, Mrityunjay. Some philosophical problems in logic and Mathematics. NBU.
4. Rai, Surendra Nath. Ahinsa aur karuna : Samaj darshan ke prasangikata mein. Durgawati. Dr S P Dubey, Prof, Department of Philosophy, Rani Durgawati Vishwavidyalaya, Jabalpur.
5. Sundaram, M A. A synthesis of yoga and vedanta : A comparative study of Yoga Sutra of Patanjali, Srimad Bhagavad Gita and Yoga Vasistha. Calicut. Dr V C Narayana Das, Prof and Head, Department of Philosophy, University of Calicut, Calicut.

Fine Arts

Music

1. Khadikar, Vijaya. Malwa ka lok nrityon ka vishleshanatmak adhyayan. Indira Kala. Dr Pyarelal Shrimal, New Peth, Ujjain.
2. Mandloi, Ranjana. Malawi bhashi lokgeeton per antrapantiya prabhav. Indira Kala. Dr Pyarelal Shrimal, New Peth, Ujjain.
3. Rajkumari. Bharatiya sangeet ke paripekshya mein Sufiyana kalam, sangeet ka adhyayan. Indira Kala. Prof Amaresh Chandra Chaubey, Head, Department of Music, Indira Kala Sangeet Vishwavidyalaya, Khairagarh.
4. Saxena, Gulshan. Lakshan granthon ke adhar per desi tal paddhiti ka vishleshanatmak adhyayan. Indira Kala. Dr Subhadra Chaudhary, Head, Department of Musicology, Banaras Hindu University, Varanasi.
5. Shrivastava, Savitri. Tabla Jagat mein Banaras Gharane ke visheshtayen evam prabhav. Indira Kala. Shri Pt Ranganath Mishra, Head, Department of Tabla, Bhatkhande Music College, Lucknow.
6. Singh, Anirudh Prasad. Bihar mein gaye jane wale lok geeton ka tulnatmak adhyayan, kshetra char. Indira Kala. Padmashri Bindhya Basini Devi, Managing Director, Vindhya Kala Mandir, All India Radio, Patna.

Language & Literature

English

1. Antony. P O. G K Chesterton : The paradoxical sage.

Calicut. Dr Joseph Kolangaden, Kolazhy, Trichur.

2. Basu, Debika. The language of Wordsworth's poetry. Calcutta.
3. Dubey, Ashutosh. Women characters of Thomas Hardy and Saratchandra : A comparative study. Devi Ahilya. Dr S S Chandel, Principal, Govt Arts and Commerce College, Indore.
4. Fernandez, Antony. The American family through four decades : A sociological interpretation of John Updike's Rabbit Tetralogy. Calicut. Dr Mohamed Elias, Prof, Department of English, University of Calicut, Calicut.
5. Geethakumari, B R. The evolution of self in the poetry of Kamala Das. Calicut. Dr C P Sivadasan, Prof, Department of English, University of Calicut, Calicut.
6. Kasbekar, Sushma. Interaction of plot and characters in the plays of Tennessee Williams. Devi Ahilya. Dr S S Chandel, Principal, Govt Arts and Commerce College, Indore.
7. Pal, Sunanda. Image of black women in the novels of some leading black women novelists of America. SNTD. Dr S Kudchedkar, Canadian Research Centre, Bombay.
8. Ramachandran, Sulekha. Women in African fiction : A study of the novels of Ngugi Wa Thiongo, Cyprian Ekwensi and Bessie Head. Calicut. Dr Mohamed Elias, Prof, Department of English, University of Calicut, Calicut.
9. Sharma, Indira. Rhythm and pattern in the novels of E M Forster. Magadh.
10. Sreerama Char, M. The making of the self in the poetry of A K Ramanujan and R Parthasarathy : A study. Krishnadevaraya. Dr C R Visweswara Rao, Reader, Department of English, Sri Krishnadevaraya University, Anantapur.
11. Suryakumari, N. The liberating perspective : A critical study of Robert Penn Warren's novels. Krishnadevaraya. Dr A Ramakrishna Rao, Prof, Department of English, Sri Krishnadevaraya University, Anantapur.

Sanskrit

1. Gandhe, Govind. Sanskrit vangmaya mein swapna vishyak avdhamayen : Ek sameekshatmak adhyayan. Devi Ahilya. Dr M P Tripathi, Department of Sanskrit and Comparative Language, Devi Ahilya Vishwavidyalaya, Indore.
2. Kothari, Krishna Chand. Brahma Vaivart Puran : Ek adhyayan. Kumaun. Dr Vasudev Pandey.
3. Mathias, Veronica. The traditional Indian fable and its global impact. Bangalore. Dr A Ramaswamy Iyengar, Head, Department of Sanskrit, N M K R V Ist Grade College for Women, Jayanagar, Bangalore.

4. Narasimhachar, G T. A literary study of the Sanskrit inscriptions in Karnataka. Bangalore. Dr A Ramaswamy Iyengar, Head, Department of Sanskrit, NM K R V Ist College for Women, Jayanagar, Bangalore.

5. Ouseph, P V. Contribution of Kerala to Vastusilpa with a critical edition of Manusyalayachandrika. Calicut. Dr K N N Elayathu, Reader, Department of Sanskrit, University of Calicut, Calicut.

6. Sekharan, K. Narayana Pandita and his works. Calicut. Dr N V P Unithiri, Prof and Head, Department of Sanskrit, University of Calicut, Calicut.

Punjabi

1. Surjit Singh. Adhunik Punjabi kahani vich jamati sangharsh, 1965-1985. Punjabi. Dr Jaswinder Singh, Reader, Department of Punjabi, Punjabi University, Patiala.

Hindi

1. Ajith Kumar, P K. Political philosophy of Ramdhari Singh Dinkar as revealed in his poems. Calicut. Dr J Haimavathy Amma, Reader, Department of Hindi, University of Calicut, Calicut.

2. Haldkar, Kandhi Lal. Kamayani ke shabdon ka arth tatvik adhyayan. Durgawati. Dr T N Shukla, Department of Hindi, Rani Durgawati Vishwavidyalaya, Jabalpur.

3. Hiremath, Lalita S. Hindi Kannada ke sharan sahitya mein neeti kavya : Tulnatmak adhyayan. Gulbarga. Dr A K Rathod, H No 8-1227, Nehru Gunj, Gulbarga and Dr S D Soundatimath, Reader, Department of Kannada, Gulbarga University, Gulbarga.

4. Kale, Archana. Hindi upanyas, 1970 se 1989 ka samajshastriya anusheelan. Ghasidas. Dr Biharilal Sahu, Department of Hindi K S Arts and Science College, Raigarh.

5. Kashyap, Saroj. Hindi ke samasya ekanki : Udbhav evam vikas. Kumaun. Dr D K Paneru.

6. Kengrani, Durga. Nirmal Verma ke nari patron ka anusheelan. Ravishankar. Dr (Smt) Suman Mishra, Asstt Prof, Department of Hindi, Govt Chhattisgarh College, Raipur.

7. Naseema S. Nagarjun ke upanyason ka samajshastriya adhyayan. Osmania.

8. Nashtar, Syeda Suhela. Phonological analysis of modern standard Hindi. AMU. Prof Iqtidar H Khan.

9. Pandey, Shambhu Dutt. Sathottari Hindi natak sahitya mein parivartit jeewan. Kumaun. Dr D C Pathak.

10. Patkar, Rajendra Kumar. Hindi nai kahani ke nari patron ka samajshastriya anusheelan. Ravishankar. Dr Ganesh Khare, Principal, Govt K D Girls College, Rajnandgaon.

11. Ramesh Chandra. Naresh Mehta ka upanyason ka samgra mulyankan. Barkatullah. Dr Dhananjay Verma, Department of Hindi, Govt Hamidia College, Bhopal.

12. Sharma, Shri Krishna. Bhartiya darshan ke paripekshya mein Hindi bhakti kaviyon ke Ishwar vishyak avadhama. D.Litt. Kumaun.

13. Sirmor, Sunita. Vishnu Prabhakar ke natya sahitya ka anusheelan. Ravishankar. Dr V K Mishra, Principal, Durga College, Raipur.

14. Tiwari, Kimanand. Chhayavadi kavya mein pragativadi swar. Kumaun. Dr Ram Singh.

Urdu

1. Khan, Raisa Bano. Delhi literary prose and prose writers from 1900 upto 1947. Delhi.

Bengali

1. Bhatta, Ankush. Mohilaler shahitya samalochaner adarsha among samalochana. NBU.

2. Das Gupta, Subhra. Rabindranather samagra rachna sangraha-o-sankalan prokasher itibritta. Rabindra Bharati.

3. Goswami, Anuradha. Bangla sahitya Maharashtra. Calcutta.

4. Jha, Nimai Ch. Malda Zillar basabaskari Maithili sampradayaar bhasha O sanskriti. NBU.

5. Mukhopadhyay, Shibani. Bangalir Ramayan charcha, 1801-1900. Rabindra Bharati.

6. Nepal, Saraswati. Balakrishna Samara Gopal Prasad : Rimalka natak ma nari patra ko tulana. NBU.

7. Pal, Amal Kumar. Rabindrator Bangla kavita pariksha-niriksha, 1923-53. Visva-Bharati.

8. Panja, Alok Nath. Characteristics and peculiarities of short stories by Tarasankar Bandyopadhyay. Calcutta.

Khasi

1. Wolflang, Coralton. Khasi drama : A study of social awareness. NEHU. Dr H W Sten, Reader and Head, Department of Khasi, North Eastern Hill University, Shillong.

Oriya

1. Dash, Suresh Chandra. Samkalina Oriya gadya sahitya ku Chandra Sekhar Rathanka Dana. Berhampur. Dr B B Kar, Reader, Department of Oriya, Berhampur University, Berhampur.

2. Naik, Krushna Chandra. Keonjhar ra loka nataka. Sambalpur. Dr S C Pradhan, Prof, P G Department of Oriya, Sambalpur University, Jyoti Vihar, Burla.

Marathi

1. Chincholkar, Aruna K. Veer Vaman Rao Joshi yanchya natakrancha : Chikitsak abhyas. Nagpur. Dr A D Velankar, Department of Marathi, S B City College, Nagpur.

2. Kanadje, S M. Anand vadvanchya sahityacha : Chikitsak abhyas. Amravati. Dr M R Wakode, Radhabai Sarad Mahavidyalaya, Anjangaon, District Amravati.

3. Kawle, Chhaya Prakashchandra. Swatantrayottar kalateel Marathi balkiha sahitya : Swarup va chintan. Nagpur. Dr Madan Kulkarni, S B City College, Nagpur.

4. Kulkarni, Madan Pandurang. Jogtini, Muralya ani Bhavini : Ek shodh, sanskritik va vangmayeen prabhav, dalit janeechya kavita teel suryapratima. D.Litt. Nagpur.

5. Patki, Manjiri Umesh. Marathi balakanchya vangmaya nirmitticha chikitsak abhyas. Amravati. Dr S K Kalnawat, Tilak Wadi, Yavatmal.

Gujarati

1. Ulava, C G. Damodardas Khushaldas Botadkar : A literary genius. Bhavnagar. Dr Vinodbhai Joshi.

Arabic

1. Abdu Razak, P K. Modern trends in the interpretation of the Holy Quran. Calicut. Dr E K Ahamedkutty, Prof, Department of Arabic, University of Calicut, Calicut.

2. Abdul Hamid Fazil. A critical study of Sirat of the Prophet - written in Arabic from 1850 to 1970 A D. AMU. Prof M Rashid, Head, Department of Arabic, Aligarh Muslim University, Aligarh.

Malayalam

1. Sankaranunni, K. The literary criticism of Joseph Mundassery : A development from C Anrhappayi, a comparative and critical study. Calicut. Dr C P Achuthanunni, Prof and Head, Department of Malayalam, University of Calicut, Calicut.

Telugu

1. Kamala, V. Pracheenandhra sahityamlo prateekalu. Osmania.

2. Ranga Chari, M. Telugu navala : Adhunika stree. Osmania.

Geography

1. Chaurasia, Kanchan. A geographical study of environmental changes in Nanital, 1880-1980. Kumaun. Dr D R Joshi.

2. Joshi, Usha. Kumaun Mandal mein yatayat ka badla swaroop evam adhuniktam pehlu. Kumaun. Dr D S Jalal.

3. Sayal, Kamala. Environmental hazards in Dhaka Catchment. Kumaun. Dr D S Jalal.

4. Vaidya, Balkrishna Champatrao. Agricultural land use in Yashoda Basin : A spatial analysis, Wardha District. Nagpur. Prof B G Tamaskar, Hony President, The Ocean Geographical Society, Pune.

History

1. Aruna. A cultural study of Orchha paintings. Durgawati. Dr R K Sharma, Prof and Head (Retd), Department of Ancient Indian History, Culture and Archaeology, Rani Durgawati Vishwavidyalaya, Jabalpur.

2. Bandyopadhyay, Tapaskumar. Ranaghat in the nineteenth century. Calcutta.

3. Chauhan, Atipriya. Madhya prant mein nyaya prashasan ke vikas ka alochnatmak adhyayan, 1861-1900. Ravishankar. Dr M A Khan, Pt Ravishankar Shukla University, Raipur.

4. Dubey, Rachana. Bhopal Riyasat mein mahila shiksha ka vikas, 1901 se 1950. Devi Ahilya. Dr J C Upadhyaya, Department of History, Govt Arts and Commerce College, Indore.

5. Gujarati, Rekha. Sadashiv Rao Bhau : Vyaktitva evam itihasek bhumika ka mulyankan. Devi Ahilya. Dr (Mrs) Kalpana Ganguly, Principal, Shri Mateshwari Sugandevi Kanya Maha Vidyalaya, Indore.

6. Gupta, Shyam Sharan. Date of Rock Shelter paintings of Central India. Nagpur. Dr Chandrashekar Gupta, Department of Ancient Indian History, Culture and Archaeology, Nagpur University, Nagpur.

7. Jena, Nibedita. Orissa under T E Revenshaw. Berhampur. Dr J K Samal, Prof, Department of History, Berhampur University, Berhampur.

8. Jothi, P K. Marumakkathayam, land monopoly and British policy in Malabar, 1800-1933. Calicut. Dr K K N Kurup, Department of History, University of Calicut, Calicut.

9. Martin, Manisha Silvia. Madhya Pradesh mein Surya upasana : Udbhav aur vikas. Durgawati. Dr M R Sharma, Department of Ancient Indian History, Culture and Archaeology, Rani Durgawati Vishwavidyalaya, Jabalpur.

10. Misra, Sibananda. Agrarian reforms in Orissa, 1858-1956. Berhampur. Dr J K Samal, Prof, Department of History, Berhampur University, Berhampur.

11. Rawat, Kanak. Kumaun sainyadal ka itihase, 1600-1960. Kumaun. Dr C S Pathak.

12. Sanjeev Kumar. Bhartiya rajniti mein Lal Bahadur Shastri ka yogdan. Kumaun. Dr M P Joshi.

13. Saxena, Kavita. Bharat mein nari shiksha kee pragati ka ek vivechanatmak adhyayan, san 1901 se 1950 tak. Durgawati. Dr (Smt) A Thakur, 58, South Civil Lines, Jabalpur.

14. Sharma, Vasundhara. Bhartiya swatantrata andolan mein Hoshangabad Jile ke yogdan ka vivechanatmak adhyayan, 1856 se 1947 tak. Durgawati. Dr (Smt) A Thakur, 58, South Civil Lines, Jabalpur.

15. Shrivastava, Atul Kumar. Raigarh samuh ke riyaston ka prashasnik evam sanskritik adhyayan, 1854 se 1948. Ravishankar. Dr M A Khan, Reader, School of Studies in History, Pt Ravishankar Shukla University, Raipur.

16. Shrivastava, Shobha. Maheshwar-Mandaleshwar ka itihasek evam sanskritik adhyayan, 18vin shatabadi ke vishesh sandarbh mein. Devi Ahilya. Dr B K Punjabi, Director, Adult Education, Devi Ahilya Vishwavidyalaya, Indore.

17. Verma, Saroj. Shung Vansh ke aath rajyon ka rajnaitik tatha sanskritik adhyayan. Kumaun. Dr M C Bhatt.



MINISTRY OF DEFENCE DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION (DRDO)

ADVT/036/RAC/94

AWARD OF RESEARCH ASSOCIATES, SENIOR/JUNIOR RESEARCH FELLOWSHIPS

Applications from highly motivated science and engineering graduates with bright track record and having aptitude for research and development are invited by DRDO for award of SENIOR/JUNIOR FELLOWSHIP/RESEARCH ASSOCIATES for research and development work in the following frontal areas :

ENGINEERING SCIENCES

Item No.	Subject	Category	No. of Posts
1.	Electrical/Electronics (Communication, Radar, Controls)	RA/SRF/JRF	2
2.	Computer Engineering (Software)	-do-	2
3.	Aeronautical Engineering (Structures, Fluid Mechanics & Controls)	-do-	3
4.	Mechanical Engineering (Design/Controls)	-do-	2
5.	Electronics (Digital Signal Processing)	RA	1
6.	Electronics (Low Level Signal Processing)	RA	1
7.	Bio-medical Engineering	RA	1

BASIC SCIENCES

Item No.	Subject	Category	No. of posts
8.	Life Sciences/Bio chemistry (Specialisation in Molecular Biology, Monoclonal antibody research)	RA	1
9.	Agriculture (Horticulture/Agronomy) OR Veterinary Science (Poultry/Animal Husbandry)	(i) SRF (ii) JRF	1 1
10.	Biochemistry	SRF	1
11.	Bio Physics	JRF	1
12.	Physics with Electronics Specialisation	SRF	1
13.	Microbiology (Experience in Molecular Genetics of yeasts)	SRF	1
14.	Molecular/Radiation Genetics (Experience in DNA repair)	RA	1
15.	Physiology/Bio-Physics (Specialisation in Audiosonics)	RA	1
16.	Organic/Polymer Chemistry (Experience in Polymers)	RA	1
17.	Organo Metallic Compounds (For MOCVD)	RA	1

2. ESSENTIAL QUALIFICATIONS :

(a) For **RESEARCH ASSOCIATES**—Ph.D degree from a recognised university or equivalent OR M.Tech having three years' of research, design and development experience in relevant discipline.

(b) For **SENIOR RESEARCH FELLOWS**—At least second class

M.Sc /BE or an equivalent degree from a recognised university or institution and NET/GATE qualified or otherwise with two years research experience after M.Sc/BE as evidenced by published papers in Standard Journals or Ph.D/ME/M.Tech or equivalent degree.

(c) For **JUNIOR RESEARCH FELLOWS**—(i) At least second class M.Sc/BE or an equivalent degree from a recognised university or institution. (ii) NET/GATE qualified. Candidates whose subjects are not covered by NET/GATE and those without passing NET/GATE can also be considered for interview.

AGE : The upper age limit for Research Associates, Senior Research Fellowship and Junior Research Fellowship will be 35 years, 32 years and 28 years respectively. Age will be reckoned on 05 Feb 94. The upper age limit will be relaxable upto 5 years in case of candidates belonging to Scheduled Castes/Tribes.

3. STIPEND :

	1st & 2nd year	3rd year
(a) Junior Research Fellow (JRF)	Rs. 1800	Rs. 2100
(b) Senior Research Fellow (SRF) (Scientific Disciplines)	Rs. 2100	Rs. 2100
(Medical/Engg Disciplines)	Rs. 2400	Rs. 2500
(c) Research Associates : Depending upon qualifications and experience, consolidated emoluments will be payable as under in the following two slabs (i) Rs. 2200-100-2700 (ii) Rs. 3700-125-4325.		

4. **CONTINGENT GRANT :** An amount of Rs. 1000/- per annum will be provided as a contingent grant for each of the persons in all the three categories.

5. DA and CCA :

BONUS AND LTC :

Not admissible.

RETIREMENT BENEFITS :

6. **HRA and MEDICAL BENEFITS :** HRA and medical benefits as allowed to other DRDO employees may be admissible. For this purpose, the fellowship amount for each of these categories will be taken as Basic Pay.

7. **LEAVE AND OTHER SERVICE BENEFITS :** JRFs and SRFs will be entitled to only casual leaves while RA may be granted other leaves as per rules. However, maternity leave may be given to women fellows under all categories.

8. **PROGRESS OF RESEARCH WORK :** Progress of research work carried out by JRFs and SRFs will be assessed at the end of two years by a Committee consisting of the Director of the concerned laboratory and an external member who is an expert in the relevant field. The Fellowship for the third year will be extended if recommended by the Committee. The stipend of JRFs will be increased from Rs. 1800/- to Rs. 2100/- per month and that of SRFs (Medical and Engineering discipline) from Rs. 2400/- to Rs. 2500/- per month for the remaining tenure, provided the research progress has been found satisfactory by the Committee.

9. **SELECTION :** Selection will be based on the basis of an interview by a Selection Board.

10. **Method of applying :** Neatly type-written applications should be sent to Director, Recruitment & Assessment Centre, Lucknow Road, Timarpur, Delhi-110 054 preferably by registered cover,

superscribed "Application for the post of RA/SRF/JRF, Item No. _____" on plain paper in the prescribed format (reproduced below) accompanied by a crossed non-refundable Postal Order of the value of Rs. 10/- drawn in favour of Senior Accounts Officer, Recruitment & Assessment Centre, DRDO, payable at New Delhi. There is no fee for SC/ST candidates. Last date of receipt of applications is **05th Feb 1994**. In respect of candidates from Andaman & Nicobar Islands, Lakshadweep and abroad, last date of receipt of applications is **19th Feb 1994**. Crucial date for determining age will be **05 Feb 94**.

11. Persons called for interview would be reimbursed actual train/bus fare by shortest route limited to second class rail fare from the normal place of residence to the place of interview.

12. Only Indian nationals need apply.

13. Candidates should send applications on the plain paper in the format given below duly typed accompanied with two self-addressed unstamped envelopes.

14. One copy of recent passport size photograph should be pasted on right hand corner of the first page of the application.

15. Attested copies of certificates/testimonials should be attached to the application form. Self attested copies will be accepted. **NO ORIGINALS SHOULD BE FORWARDED.**

16. Candidates will have to produce certificates at the time of interview.

17. Incomplete applications or those received late will be rejected and no correspondence would be entertained in this regard.

18. The prescribed Essential Qualifications are the bare minimum and the mere possession of the same does not entitle candidates to be called for interview. Where the number of applications received in response to an advertisement is large and it will not be convenient or possible for the Recruitment & Assessment Centre (RAC) to interview all these candidates, the RAC may restrict the number of candidates for interview to a reasonable limit on the basis of qualifications and experience higher than the minimum prescribed in the advertisement.

19. **CANDIDATES WORKING IN GOVERNMENT/PUBLIC SECTOR UNDERTAKINGS/AUTONOMOUS ORGANISATIONS MUST APPLY THROUGH PROPER CHANNEL. THEY SHALL NOT BE INTERVIEWED IF THEY FAIL TO PRODUCE A 'NO OBJECTION' CERTIFICATE FROM THEIR EMPLOYER AT THE TIME OF INTERVIEW.**

20. Candidates desirous of applying for more than one post may apply separately for posts indicating item No. of the posts.

21. Candidates have the liability to serve anywhere in India.

22. Handwritten applications will not be entertained.

23. Number of posts against each item is tentative and may vary. Posts from Item 1 to 4 are for Aeronautical Development Agency, Bangalore.

24. All extra sheets used by the candidates **MUST** be duly authenticated by them.

25. **THE OFFER OF FELLOWSHIP/ASSOCIATE WILL NOT CONFER ANY RIGHT FOR REGULAR APPOINTMENT IN DRDO.**

26. **CANVASSING IN ANY FORM WILL MEAN DISQUALIFICATION.**

PROFORMA APPLICATION
(Use A-4 size 21 x 30 cm of paper)
Application for the post of RA/SRF/JRF

Affix Passport
size
latest Photograph

1. Advertisement No.
2. Item No. : Subject :
3. Details of Postal Order (s)
No. Date and Amount :
4. Name in full (Sri/Smt/Km) :
(in block letters)
5. (a) Date of Birth :
(in Christian era in figures)
(b) Age as on 05th Feb 1994 :
6. Nationality :
7. Marital Status :
8. Father's/Husband's name :
9. Address for correspondence :
10. Permanent Address :
(in block letters with pin code)
11. Nearest Railway Station :
12. Whether belong to SC/ST :
(If yes, attach certificate)
13. Educational Qualifications :

Sr. No.	* Exam Passed	University/ Institution/ Board	Year of Passing	Subjects taken	Percentage of Marks	Division
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*In chronological order from X Standard (SSLC/HS/HSC) onwards

14. Have you qualified NET/GATE Examination Yes/No
(a) If yes, please indicate year of Passing & Percentile score
15. Are you registered for a higher degree Yes/No
(a) If yes, please indicate Title of Degree, University & date of registration
(b) If no, please indicate whether you propose to register for a higher degree
16. Employment Record :

Name & address of employer	Period of service from to	Designation of the post held/ Name of Estt.	Scale of pay of each post	Detailed description of work*	Reason for leaving
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*Attach separate signed sheet(s), if necessary.

17. Present Basic pay :
Total emoluments :
Salary expected :
18. Resume of research work/experience, if any :
(Attach separate signed sheet(s), if necessary)
19. No. of papers published :
(Give details in separate signed sheet(s))
20. Field of special interest :
21. Any other information you may wish to add (Use separate sheet if necessary)
22. Declaration :

I declare that the foregoing information is correct and complete to the best of my knowledge and belief and nothing has been concealed/distorted. If at any time, I am found to have concealed/distorted any material information, my appointment shall be liable to summary termination without notice. I will, if and when required, take up duty in the discharge of government assignments anywhere in India.

Place :

Date :

Signature of Candidate

davp 93/631



MINISTRY OF DEFENCE DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION (DRDO)

ADV/T/037/RAC/94

DRDO invites applications for the following posts:-

SCIENTIST 'G' (Rs. 5900-7300) — 1 POST

**DEFENCE MATERIALS & STORES RESEARCH
DEVELOPMENT ESTABLISHMENT, KANPUR**

Item No. 1 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least second class Master's degree in Chemistry/Physics or Bachelor's degree in Textile Engineering/Mechanical Engineering/Chemical Engineering from a recognised university or equivalent. (ii) Twelve years' experience in research, design, development and transfer of technology in the areas of non-metallic materials, composites, Textile and Light Engineering Stores of which 5 years should have been in senior responsible position handling major R&D Projects of multi-disciplinary nature.

DESIRABLE QUALIFICATIONS : (i) Doctorate degree in Chemistry/Physics or Master's degree in Textile/Mechanical/Chemical Engineering. (ii) Experience in Transfer of Technology in the areas mentioned at (ii) above under EQ.

SCIENTIST 'F' (Rs. 5100-6300) — 1 POST

**DEFENCE RESEARCH AND DEVELOPMENT LABORATORY,
HYDERABAD**

Item No. 2 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least second class B.E./B.Tech degree in Electrical Engineering from a recognised university or equivalent. (ii) At least 10 years R&D experience in the field of Guided Weapons/Missile Systems including specification formulation, development of Launch Control Systems, Automatic Checkout Systems, Operations, Deployment and Training of Missile Systems out of which three years should have been as Project Manager/Leader responsible for Technical Management of flight testing, evaluation of performance of Missile Sub-systems like On Board Radars, Computers, Servo Controllers etc., Ground Systems and their productionisation.

DESIRABLE QUALIFICATIONS : (i) Master's degree in Electrical Engineering. (ii) Experience in technical management of Airborne Radio Proximity Systems. (iii) Knowledge in the field of Active Seekers/Terminal Homing/Terminal Guidance/Intelligence Systems.

SCIENTIST 'E' (Rs. 4500-5700) — 2 POSTS

**DEFENCE INSTITUTE OF TECHNOLOGY MANAGEMENT,
MUSSOORIE**

Item No. 3 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least second class B.E./B.Tech degree in Mechanical/Electrical/Electronics Engineering from a recognised university or equivalent. (ii) Ten years experience in Project Management/General Management/R&D Systems/Teaching in the Management discipline in a reputed Institute and conducting of Management Courses at a senior faculty level.

DESIRABLE QUALIFICATIONS : (i) MBA degree from a recognised university/Institute. (ii) M.E./M.Tech degree in Mechanical/Electrical/Electronics/Industrial Engg. (iii) Flair in teaching "Technology Management" related subjects.

**DEFENCE RESEARCH & DEVELOPMENT ESTABLISHMENT,
GWALIOR**

Item No. 4 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least second class M.Sc./M.V.Sc. in Medical or Veterinary Microbiology or Virology from a recognised university or equivalent. (ii) Ten years research experience in Immunology specially related to the development of Diagnostic Kits for human and veterinary diseases.

DESIRABLE QUALIFICATIONS : (i) Ph.D. in Microbiology.

SCIENTIST 'C' (Rs. 3000-4500) — 12 POSTS

**DEFENCE METALLURGICAL RESEARCH LABORATORY,
HYDERABAD**

Item No. 5 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Metallurgical Engineering from a recognised university or equivalent. (ii) Four years research experience in the area of modern computational techniques and process modelling.

DESIRABLE QUALIFICATIONS : M.Tech degree in Metallurgical Engineering/Material Science or doctoral degree in the relevant area of research with a knowledge of Finite Element Analysis applied to Metallurgical Processes such as Solidification, Phase Transformations and Deformation.

Item No. 6 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least second class B.E./B.Tech degree in Metallurgy or Master's degree in Material Science from a recognised university or equivalent. (ii) Four years research and development experience in the production of Silicon Carbide Whiskers and densification of ceramics as evidenced by papers published in reputed journals.

DESIRABLE QUALIFICATIONS : Ph.D./M.Tech degree in relevant field.

**NAVAL PHYSICAL & OCEANOGRAPHIC LABORATORY,
KOCHI**

Item No. 7 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least second class M.Sc. degree in Organic Chemistry from a recognised university or equivalent. (ii) Four years research and development experience in Polymers.

DESIRABLE QUALIFICATIONS : (i) Ph.D./M.Tech degree in Polymer Technology.

**DEFENCE INSTITUTE OF TECHNOLOGY MANAGEMENT,
MUSSOORIE**

Item No. 8 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least second class B.E./B.Tech degree in Electronics/Mechanical Engineering from a recognised university or equivalent. (ii) Four years experience in research/teaching in a recognised college/university/institute in the Management discipline.

DESIRABLE QUALIFICATIONS : (i) M.B.A. degree from a recognised university/institute. (ii) Flair for teaching "Technology Management" related subjects.

SOLID STATE PHYSICS LABORATORY, DELHI

Item No. 9 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least Second Class B.E./B.Tech degree in Electronics/Electronics & Communication Engi-

neering or Master's degree in Physics from a recognised university or equivalent. (ii) Four years research and development experience in the growth and characterisation of semi-conductor materials and fabrication of devices as evidenced by published work in reputed journals.

DESIRABLE QUALIFICATIONS : (i) M.Tech/Ph.D degree in the relevant field.

DEFENCE BIO-ENGINEERING & ELECTROMEDICAL LABORATORY, BANGALORE

Item No. 10 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) A Medical qualification included in first schedule or second schedule or the Part II of the third schedule of the IMC Act, 1956. Holders of medical qualification included in Part II of the said third schedule should also fulfil the conditions specified in sub-section (3) of section 13 of the said Act. (ii) M.D. in Aviation Medicine/Pathology. (iii) Three years experience in the field of Aviation Medicine/Pathology.

SNOW & AVALANCHE STUDY ESTABLISHMENT, MANALI

Item No. 11 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least second class M.Sc./M.Tech degree in Physics/Applied Physics with specialisation in Heat and Mass Transfer from a recognised university or equivalent. (ii) Four years research experience in the field of heat transfer through porous media.

DESIRABLE QUALIFICATIONS : (i) Ph.D degree in the area of Heat and Mass Transfer. (ii) Experience in Computer Programming.

INS SHIVAJI, LONAVALA

Item No. 12 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Electrical Engineering from a recognised university or equivalent. (ii) Four years R&D or teaching experience in the field of Electrical Engineering.

DESIRABLE QUALIFICATIONS : (i) Master's degree in Electrical Engineering with specialisation in Machine Design/Power Systems/Control Systems Engineering.

Item No. 13 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Mechanical Engineering from a recognised university or equivalent. (ii) Four years R&D or teaching experience in the field of Mechanical Engineering.

DESIRABLE QUALIFICATIONS : Master's degree in Mechanical Engineering with specialisation in CT/HT/Thermal Systems/Refrigeration and A/C.

RESEARCH CENTRE, IMARAT, HYDERABAD

Item No. 14 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Electronics or Electronics & Communications Engineering from a recognised university or equivalent. (ii) Four years experience in Design and Development of Microwave Systems using MIC & MMIC technology for Airborne/Ground based systems.

DESIRABLE QUALIFICATIONS : Master's degree in Electronics or Electronics & Communication Engineering.

Item No. 15 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Electronics or Electronics & Communication Engineering from a recognised university or equivalent. (ii) Four years experience in Signal Processing, Image Processing & Reference Scene Generation.

DESIRABLE QUALIFICATIONS : (i) Master's degree in Electronics or Electronics & Communication Engineering.

DEFENCE RESEARCH & DEVELOPMENT ESTABLISHMENT, GWALIOR

Item No. 16 : 1 Post

ESSENTIAL QUALIFICATIONS : (i) A Medical qualification included in the First Schedule or Second Schedule or the Part II of the Third Schedule of the IMC Act, 1956. Holders of Medical qualification included in Part II of the said Third Schedule should also fulfil the conditions specified in sub-section (3) of Section 13 of the said Act. (ii) M.D. in Pathology/Microbiology. (iii) Three years practical experience in the above medical field or medical research or medical education.

DESIRABLE QUALIFICATIONS : Research experience in disease investigations.

SCIENTIST 'B' (Rs. 2200-4000) - 31 POSTS (UR-23, SC-6, ST-2)

DEFENCE MATERIALS & STORES RESEARCH DEVELOPMENT ESTABLISHMENT, KANPUR

Item No. 17 : 2 Posts (UR)

ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Textile Chemistry or Technology or Engineering from a recognised university or equivalent.

DESIRABLE QUALIFICATIONS : Master's degree in Textile Chemistry or Technology or Engineering.

DEFENCE INSTITUTE OF PSYCHOLOGICAL RESEARCH, DELHI

Item No. 18 : 4 Posts (UR-3, SC-1)

ESSENTIAL QUALIFICATIONS : At least second class Master's degree in Psychology from a recognised university or equivalent.

DESIRABLE QUALIFICATIONS : M.Phil/Ph.D in Psychology/Social Psychology.

NAVAL PHYSICAL OCEANOGRAPHY LABORATORY, KOCHI

Item No. 19 : 3 Posts (UR-2, SC-1)

ESSENTIAL QUALIFICATIONS : At least second class M.Sc. degree in Physical Oceanography from a recognised university or equivalent.

DESIRABLE QUALIFICATIONS : Cruise experience and handling of Oceanographic equipment at sea.

Item No. 20 : 1 Post (UR)

ESSENTIAL QUALIFICATIONS : At least second class Master's degree in Marine Geo-Physics from a recognised university or equivalent.

DESIRABLE QUALIFICATIONS : R&D experience in Marine Geo-Physics.

DEFENCE RESEARCH & DEVELOPMENT LABORATORY, HYDERABAD

Item No. 21 : 1 Post (UR)

ESSENTIAL QUALIFICATIONS : At least second class B.E./B.Tech degree in Civil Engineering from a recognised university or equivalent.

DESIRABLE QUALIFICATIONS : (i) M.Tech degree in Ocean Engineering. (ii) R&D experience in the area of Hydrodynamics and Under Water Instrumentation.

SNOW & AVALANCHE STUDY ESTABLISHMENT, MANALI

Item No. 22 : 1 Post (UR)

ESSENTIAL QUALIFICATIONS : (i) At least second class M.Sc./M.Tech degree in Physics/Applied Physics with strong background of Mechanics of Materials from a recognised university or equivalent.

DESIRABLE QUALIFICATIONS : (i) Ph.D degree in related field.

(ii) Research experience in modelling the properties of porous media/Darcian flow through porous media. (iii) Experience in Computer programming.

EXPLOSIVES RESEARCH & DEVELOPMENT LABORATORY, PUNE

Item No. 23 : 1 Post (UR)

ESSENTIAL QUALIFICATIONS : At least second class M.Sc. degree in Organic Chemistry from a recognised university or equivalent.

DESIRABLE QUALIFICATIONS : (i) Ph.D degree in Organic Chemistry. (ii) R&D experience in the areas of High Energy Materials.

TERMINAL BALLASTICS RESEARCH LABORATORY, CHANDIGARH/EXPLOSIVES RESEARCH DEVELOPMENT LABORATORY, PUNE/DEFENCE LABORATORY, JODHPUR

Item No. 24 : 3 Posts (UR-2, SC-1)

ESSENTIAL QUALIFICATIONS : At least second class B.E./B.Tech degree in Chemical Engineering from a recognised university or equivalent.

DESIRABLE QUALIFICATIONS : (i) M.Tech degree in Chemical Engineering. (ii) Experience in production of Energy rich high explosive composition/R&D experience in the field of Solid Rocket Propellants and other high energy materials/R&D experience in process control and instrumentation.

PROOF & EXPERIMENTAL ESTABLISHMENT & INTERIM TEST RANGE, BALASORE

Item No. 25 : 2 Posts (UR-1, SC-1)

ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Electrical Engineering from a recognised university or equivalent.

DESIRABLE QUALIFICATIONS : (i) Master's degree in Electrical Engineering with specialisation in instrumentation/High Voltage Engineering and Power Supply Digital Computerised System/Power Electronics.

EXPLOSIVES RESEARCH & DEVELOPMENT LABORATORY, PUNE/RESIDENT TECHNICAL OFFICE (ENGINES), BANGALORE

Item No. 26 : 2 Posts (UR)

ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Electronics Engineering from a recognised university or equivalent.

DESIRABLE QUALIFICATIONS : (i) M.Tech degree in Electronics Engineering. (ii) Specialisation in Control Engineering.

EXPLOSIVES RESEARCH & DEVELOPMENT LABORATORY, PUNE/INS SHIVAJI, LONAVALA

Item No. 27 : 5 Posts (UR-3, SC-1, ST-1)

ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Mechanical Engineering from a recognised university or equivalent.

DESIRABLE QUALIFICATIONS : (i) M.Tech degree in Mechanical Engineering. (ii) Specialisation in Machine Design/Vibrations/CAD or Industrial Engineering/Production Technology/CAM or Instrumentation and Controls. (iii) Teaching Experience.

PROJECT OFFICE (MATERIALS), HYDERABAD/RESIDENT TECHNICAL OFFICE, KORWA/INS SHIVAJI, LONAVALA

Item No. 28 : 4 Posts (UR-3, ST-1)

ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Metallurgical Engineering from a recognised university or equivalent.

DESIRABLE QUALIFICATIONS : (i) M.Tech degree in Metallurgical Engineering/Material Science. (ii) Teaching Experience.

INS SHIVAJI, LONAVALA

Item No. 29 : 2 Posts (UR-1, SC-1)

ESSENTIAL QUALIFICATIONS : (i) At least second class Bachelor's degree in Electronics or Electronics & Communication Engineering from a recognised university or equivalent.

DESIRABLE QUALIFICATIONS : (i) M.Tech degree in Electronics or Electronics & Communication Engineering with specialisation in Power Electronics/Industrial Engineering/Industrial Control Engineering or Radar/Microwave Engineering/Telecommunication. (ii) Teaching experience.

DIRECTORATE OF CIVIL WORKS & ESTATES

ADDITIONAL CHIEF CONSTRUCTION ENGINEER (Rs. 4100-5300) (NON-DRDS)

Item No. 30 : 1 Post (UR)

ESSENTIAL QUALIFICATIONS : Bachelor's degree in Civil/Electrical/Mechanical Engineering or Architecture from a recognised university or equivalent. (ii) Nine years experience of planning or execution of works. (iii) Experience in planning/execution of major time bound projects of Workshops/Factories/Research Establishments OR Experience in Estate Management (i.e. encroachments, development, usufructs/and Litigation etc.); Provision of Civic amenities for inhabited estates, arboriculture and environmental health, civic taxes etc., and expert knowledge of Land Acquisition Laws, land valuation techniques, rules related to negotiated purchase/hiring of immovable property.

DESIRABLE QUALIFICATIONS : Knowledge of Scales of accommodation, Budget monitoring and quantity surveying.

DEPUTY CHIEF CONSTRUCTION ENGINEER/PROJECT MANAGER (Rs. 3700-5000) (NON-DRDS)

Item No. 31 : 2 Posts (UR)

ESSENTIAL QUALIFICATIONS : Bachelor's degree in Civil/Electrical/Mechanical Engineering or Architecture from a recognised university or equivalent. (ii) Six years experience in planning and execution of works. (iii) Experience in planning/execution of major time bound projects of Workshops/Factories/Research Establishments OR Experience in Estate Management (i.e. encroachments, development, usufructs/and litigation etc.); Provision of Civic amenities for inhabited estates, arboriculture and environmental health, civic taxes etc.; and knowledge of Land Acquisition Laws, valuation of land, rules related to hiring of immovable property.

DESIRABLE QUALIFICATIONS : (i) Degree in Building and quality surveys from Institute of Surveyors. (ii) Knowledge of Budget Control and monitoring of works. (iii) Experience in formulation and planning of civil works.

CONSTRUCTION ENGINEER/DEPUTY PROJECT MANAGER (Rs. 3000-4500) (NON-DRDS)

Item No. 32 : 2 Posts (UR)

ESSENTIAL QUALIFICATIONS : Bachelor's degree in Civil/Electrical/Mechanical Engineering or Architecture from a recognised university or equivalent. (ii) Five years experience in planning and execution of works out of which at least 3 years should be on site/field OR Experience in Estate Management (i.e. encroachments; development, usufructs/and Litigation etc.); Provision of Civic amenities for inhabited estates, arboriculture and environmental health, civic taxes etc; and experience of land survey and Land Acquisition, valuation of land, rules related to hiring of immovable property OR Experience in vetting of running/final bills of civil works, scrutiny of contract documents deviation orders and amendments to contracts, control of civil works budget, stores audit with exposure to computer programming/systems analysis.

DESIRABLE QUALIFICATIONS : (i) Experience in planning/design of works connected with time bound projects. (ii) Knowledge

of Budget monitoring and control of works expenditure and scales of accommodation.

FOR ALL THE ABOVE POSTS KNOWLEDGE OF FRENCH, GERMAN, RUSSIAN, JAPANESE, CHINESE WILL BE DESIRABLE QUALIFICATION.

GENERAL CONDITIONS

1. Promotion Prospects : DRDO offers opportunities for career advancement as Scientist. Result oriented motivated scientist can look forward to promotions to following grades of scientists :

- (i) Scientist 'C' : Rs. 3000-4500 (ii) Scientist 'D' : Rs. 3700-5000
(iii) Scientist 'E' : Rs. 4500-5700 (iv) Scientist 'F' : Rs. 5100-6300
(v) Scientist 'G' : Rs. 5900-7300

2. Higher starting salary may be granted to the candidates whose performance is exceptionally brilliant in the interview.

3. Age Limits : (i) For Scientist 'B' : Not exceeding 28 years, (ii) For Scientist 'C' not exceeding 35 years, (iii) For Scientist 'D' and Scientist 'E' : not exceeding 45 years, (iv) For Scientist 'F' and 'G' not exceeding 50 years. Age limits for posts at Item No. 30, 31 and 32 is 50 years, 45 years and 40 years respectively. Age is relaxable by 5 years in case of Govt. servants and those belonging to Scheduled Caste and Scheduled Tribes communities. Crucial date for determining age is 05th Feb 1994.

4. Method of applying : Neatly type-written applications should be sent to Director, Recruitment & Assessment Centre, Lucknow Road, Timarpur, Delhi-110 054 preferably by registered cover, superscribed "Application for the post of Scientist "_____ " Item No. "_____ " on plain paper in the prescribed format (reproduced below) accompanied by a crossed non-refundable Postal Order of the value of Rs. 10/- drawn in favour of Senior Accounts Officer, Recruitment & Assessment Centre, DRDO, payable at New Delhi. There is no fee for SC/ST candidates. Last date of receipt of applications is 05th Feb 1994. In respect of candidates from Andaman & Nicobar Islands, Lakshadweep and abroad, last date of receipt of applications is 19th Feb 1994.

5. Persons called for the interview would be reimbursed actual train/bus fare by shortest route limited to second class rail fare from the normal place of residence to the place of interview.

6. Only Indian nationals need apply.

7. Candidates should send applications on the plain paper in the format given below duly typed accompanied with two self-addressed unstamped envelopes.

8. One copy of recent passport photograph should be pasted on right hand corner of the first page of the application.

9. Attested copies of certificates/testimonials should be attached to the application form. Self attested copies will be accepted. NO ORIGINALS SHOULD BE FORWARDED.

10. Candidates will have to produce original certificates at the time of interview.

11. Incomplete applications or those received late will be rejected and no correspondence would be entertained in this regard.

12. The prescribed Essential Qualifications are the bare minimum and the mere possession of the same does not entitle candidates to be called for interview. Where the number of applications received in response to an advertisement is large and it will not be convenient or possible for the Recruitment & Assessment Centre (RAC) to interview all these candidates, the RAC may restrict the number of candidates for interview to a reasonable limit on the basis of qualifications and experience higher than the minimum prescribed in the advertisement or by holding a written test. No TA is admissible in case a written test is held.

13. CANDIDATES WORKING IN GOVERNMENT/PUBLIC SECTOR UNDERTAKINGS/AUTONOMOUS ORGANISATIONS MUST APPLY THROUGH PROPER CHANNEL. THEY SHALL

NOT BE INTERVIEWED IF THEY FAIL TO PRODUCE A 'NO OBJECTION' CERTIFICATE FROM THEIR EMPLOYER AT THE TIME OF INTERVIEW.

14. Candidates desirous of applying for more than one post may apply separately for posts indicating item No. of the posts.

15. Candidates on appointment will have the opportunity to carry out Ph.D with external registration and may be sponsored for doing M.Tech.

16. Opportunities are also available for study leave for carrying out higher studies abroad.

17. DRDS Officers may be sponsored for training abroad.

18. Though initial place of posting is indicated against some of the posts, yet candidates have the liability to serve anywhere in India.

19. Handwritten applications will not be entertained.

20. Number of posts against each item is tentative and may vary.

21. All extra sheets used by the candidates MUST be duly authenticated by them.

22. Concessions admissible to Employees of Snow & Avalanche Establishment while serving in Field area near Manali :

- (i) Free ration at the scale as admissible to service personnel of equivalent status.
- (ii) Free furnished single room accommodation as admissible to service personnel of equivalent status.
- (iii) Winter clothing on loan as per the scale laid down.
- (iv) Free Medical Treatment.
- (v) Avalanche pay @ Rs. 250/- p.m. for the duration of deployment in avalanche prone area w.e.f. 01st Nov to 30th April.

23. **CANVASSING IN ANY FORM WILL MEAN DISQUALIFICATION.**

PROFORMA APPLICATION

(Use A-4 size 21 x 30 cm of paper)

Application for the post of Scientist _____

*(To be indicated)

Affix Passport
size
latest Photograph

1. Advertisement No. :
2. Item No. :
3. Details of Postal Order (s)
No. Date and Amount :
4. Name in full (Sri/Smt/Km) :
(in block letters)
5. (a) Date of Birth :
(in Christian era in figures)
(b) Age as on 05th Feb 1994 :
6. Nationality :
7. Marital Status :
8. Father's/Husband's name :
9. Address for correspondence :
10. Permanent Address :
(in block letters with pin code)
11. Nearest Railway Station :
12. Whether belong to SC/ST :
(If yes, attach certificate)

Sr. No.	* Exam Passed	University/ Institution/ Board	Year of Passing	Subjects taken	Percentage of Marks	Division
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*In chronological order from X Standard (SSLC/HS/HSC) onwards

14. Have you qualified NET/GATE Examination Yes/No
(a) If yes, please indicate year of Passing & Percentile score

15. Are you registered for a higher degree Yes/No
 (a) If yes, please indicate Title of Degree, University & date of registration
 (b) If no, please indicate whether you propose to register for a higher degree

16. Professional Training :

Organisation	Period		Details of training
	From	To	

17. Employment Record :

Name & address of employer	Period of service from to	Designation of the post held/ Name of Estt.	Scale of pay of each post	Detailed description of work*	Reason for leaving
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*Attach separate signed sheet(s), if necessary

18. Present Basic pay :

Total emoluments :

Salary expected :

19. (a) Are you a Central/State Govt Servant :
 (b) If not, whether an employee of public sector undertaking/autonomous body/Private body :

20. Minimum joining time required :

21. Resume of research work/experience, if any :
 (Attach separate signed sheet(s), if necessary)

22. No. of papers published :
 (Give details in separate signed sheet(s))

23. Field of special interest :

24. Are you under any contractual obligations to serve Central/ State Govt/Any other public sector undertaking or Autonomous body and if so, give details :

25. Details of relatives already employed in DRDO

Name of Relatives	Relationship	Lab/Estt. in which employed	Post Held
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26. Have you applied for any post in DRDO during the past two years? If so, give particulars :

Sr No.	No and Date of Advt.	Name of Post Discipline	Date of Interview	Remarks
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27. Any other information you may wish to add (Use separate sheet if necessary)

28. Declaration :

I declare that the foregoing information is correct and complete to the best of my knowledge and belief and nothing has been concealed/distorted. If at any time, I am found to have concealed/distorted any material information, my appointment shall be liable to summary termination without notice. I will, if and when required, take up duty in the discharge of government assignments anywhere in India.

Place :

Date :

Signature of Candidate

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CLASSIFIED ADVERTISEMENTS

KUMAUN UNIVERSITY NAINITAL

Advertisement No. 1317

Dated : 10 Jan, 1994

Applications for the following posts are invited by 20 Feb., 1994 on the prescribed form obtainable from the Office of the Registrar, Kumaun University, Nainital-263001 (U.P.) by sending self addressed 9" x 6" envelope and crossed Postal Order/Bank Draft for Rs. 20/- payable to the Finance Officer, Kumaun University, Nainital. Money orders are not acceptable. Candidates who have already applied in response of Advt. No. 928 dt. 20.10.93 for the post of Professor Physics, Education, Zoology, Lecturer Commerce, Advt. No. 411 dt. 15.6.93 for the post Prof. Geology Advt. no. 1549 dt. 22.3.91 for the post Reader Mathematics, Commerce, Lecturers Music, Prof. Physics Advt. Nos. 1207 dt. 12.2.93, Advt. No. 1028 dt. 2.11.91 and Advt. Nos. mentioned in said Advt. No. 1028 dt. 2.11.91 (if rejection of application is not communicated) need not apply again, except Prof. Sociology, Lecturers Tourism, Hindi, Zool., Sociology. However, they may send the update additions to their qualification and change of address etc., if any.

Sl. No.	Department	Professor 4500-7300	Reader 3700-5700	Lecturer 2200-4000	Specialization if any
1.	History	1 TLR	1 LV	1 TLR, 1 LV	-
2.	Sociology	1 TLR	-	1 TLR	Studies in tribes & Backward classes for Professor only.
3.	Mathematics	1 TLR	1 UGC post	1 TLR	Diff. Geometry for Reader
4.	Law	-	1 TLR	-	-
5.	Economics	-	1 TLR	1 TLR	-
6.	Education	1 R	1 TLR	-	-
7.	Botany	-	1 TLR	-	-
8.	Zoology	1 TLR	-	1 TLR	-
9.	Psychology	-	-	2 TLR	-
10.	Commerce	-	1 UGC post	2 TLR	Accountancy for Reader
11.	Hindi	1 R	-	1 LV	-
12.	Tourism	-	-	1 R	-
13.	Sanskrit	-	-	2 TLR	-
14.	Pol. Science	-	1 R	-	-
15.	Geography	-	-	1 TLR	-
16.	Geology	1 R	1 LV	1 TLR	-
17.	Music	-	-	2 UGC post	One Vocal, One Table
18.	Physics	1 TLR 1 LV	2 TLR*	-	Spectroscopy with experience in Photo-physics and time resolved spectroscopy for one TLR post of Professor *One Reader in High-energy/Particle Phys.

Note : R-implies regular, TLR-implies temporary likely to be regular, LV-implies leave vacancy.

Requirements for the post of Lecturer Tourism : M.A. Geography/History/Economics with atleast 55% marks, (b) PG diploma in tourism and well versed in field experience, rest as per statute.

APPOINTMENTS WILL BE MADE AS PER PRESCRIBED QUALIFICATIONS FOR POSTS.

Preference will be given to SC/ST/Disabled candidates if considered suitable. Applications received after due date and on plain paper will not be acceptable.

REGISTRAR

UNIVERSITY OF CALICUT CALICUT UNIVERSITY P.O.

GENERAL AND ACADEMIC II 'C'
SECTION

ERRATUM

Reference Advt No GA-II/C1/2871/92 Dated 29/11/93 appeared in *University News* issue dated 27 Dec 1993

The nature of the 4th post of Lecturer in Education in the Department of Education is Temporary, instead of Permanent as mentioned in the notification. The other conditions for the posts shall remain the same.

REGISTRAR

CORPORATE EDUCATIONAL AGENCY

DIOCESE OF KOTHAMANGALAM

KOTHAMANGALAM

Applications are invited from eligible candidates for the posts of lecturers in English, Malayalam, Hindi, Maths, Physics, Botany, Commerce, History and Physical Education for substantive/leave vacancies, actual and possible, in the Colleges under the Corporate Educational Agency, Diocese of Kothamangalam. Selection will be made both on general and community merit.

Applications with biodata and qualifications are to reach the Manager of Colleges, Bishop's House, Kothamangalam-686691, within a month of this notification. Application fee of Rs. 50/- may be sent as M.O. coupon, Postal Order or postal stamps.

MANAGER

Dr. B.R. AMBEDKAR OPEN UNIVERSITY

Somajiguda, Hyderabad - 500 482.

M.Phil./Ph.D.

Admission Notice 1994-95

The University invites Applications for admission to **M.Phil. and Ph.D. PROGRAMMES IN DEVELOPMENT STUDIES (Part-Time)** for 1994-95. The programmes organised in collaboration with **Centre for Economic and Social Studies (CESS)**, at the **Centre's Campus, Hyderabad**, have no age restriction and are designed to enable employed persons to do research while in service.

Programmes in the following areas of specialisation (subjects) are offered:

1. COMMERCE 2. DEVELOPMENT
STATISTICS 3. ECONOMICS 4. GEOGRAPHY
5. POLITICAL SCIENCE & PUBLIC
ADMINISTRATION 6. SOCIOLOGY.

Application forms for M.Phil. and Ph.D., prospectus and syllabus for the **Entrance Test for M.Phil.** can be had from Office of Director, CESS, from 10.30 a.m. to 4.00 p.m. on payment of Rs. 25/- (Rupees Twenty five only) in cash or by demand draft. A self addressed envelope of 13 x 28 c.m. size with postage stamps worth Rs. 3/- should be enclosed.

ELIGIBILITY FOR ADMISSION :

(i) **M.Phil.** : Master's Degree with Second division in Social Sciences or allied disciplines. Preference will be given to college teachers, persons working in Research Organisations, Professionals connected with Social Sciences, and UGC-JRF Scholars.

Filled-in applications for M. Phil. along with the **Entrance Test fee** of Rs. 50/- (Rupees fifty only) either in cash or demand draft should reach the **Coordinator (Research Programmes), CESS** on or before **February 19, 1994.**

Date of M. Phil. Entrance Test : 13.3.1994.

(ii) **Ph.D.** : M.Phil. Degree or 60% marks in M. Phil. Part-I i.e., course work, or Master's Degree with second division of any recognised University with at least two research publications in standard and professional journals.

Filled in application forms along with Registration fee of Rs. 50/- (Rupees fifty only) either in cash or by D.D. enclosing a **Research Proposal** in about 1000 words should reach the **Coordinator (Research Programmes) CESS, Nizamia Observatory Campus, Begumpet, Hyderabad - 500 016 (Tel : 212789)** on or before **February 19, 1994.**

NOTE : All Demand Drafts should be payable at Hyderabad and drawn in favour of: **Director, CESS.**

Sd/- Prof. M. Satyanarayana Rao
REGISTRAR 1/c

Dnyan Prabodhini Mandal's

SHRI MALLIKARJUN COLLEGE OF ARTS AND COMMERCE

CANACONA, GOA

Applications are invited for the following posts to be filled up during June, 1994 :

- | | |
|--------------------------------------|--------|
| 1. Principal | 1 post |
| 2. Lecturer in English | 1 post |
| 3. Lecturer in History | 1 post |
| 4. Lecturer in Business Organisation | 1 post |
| 5. Lecturer in Accountancy | 1 post |
| 6. Lecturer in Marathi | 1 post |
| 7. Lecturer in Computer System | 1 post |
| 8. Lecturer in Business Law | 1 post |
| 9. Lecturer in Hindi | 1 post |
| 10. Lecturer in Konkani | 1 post |
| 11. Lecturer in Mathematics | 1 post |
| 12. Librarian | 1 post |
| 13. Director of Physical Education | 1 post |

Qualifications :

- a) For the post of Principal :

Essential qualifications :

Minimum 10 years of approved teaching experience as a Lecturer at undergraduate and/or postgraduate level and a postgraduate degree in the relevant subject/faculty.

Desirable qualifications :

M.Phil./Ph.D. in the relevant subject/faculty.

- b) For the post of Lecturer :

Essential qualifications :

(i) A good academic record with at least 55% marks or equivalent grade at Master's degree level in the relevant subject and (ii) should have cleared the eligibility test for Lecturership conducted by the UGC/CSIR - (J.R.F. Test) or a similar test accredited by the UGC unless exempted.

Desirable qualifications :

M.Phil./Ph.D. in the relevant subject.

- c) Qualification for the posts No. 12 & 13 are as prescribed by the University of Goa.

In case candidates having cleared the UGC or exempted from appearing for the test are not available, or found suitable, candidates who have not cleared the test will be appointed purely on a temporary basis.

Scales of pay :

- a) For post No. 1 : Rs. 3700-125-4950-150-5700.
b) For posts No. 2 to 13 : Rs. 2200-75-2800-100-4000.

All the posts carry other allowances as prescribed by Goa University and Government of Goa.

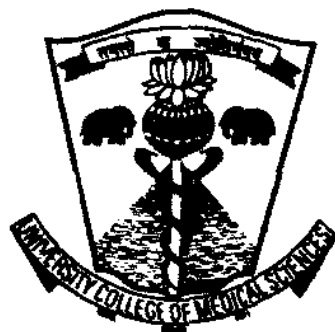
Applications giving full bio-data and true copies of all certificates, testimonials and mark sheets from S.S.C. onwards should be sent **within 15 days** from the date of publication of this advertisement, to the Secretary, Dnyan Prabodhini Mandal, Kareem Building, St. Ines, Panaji, Goa.

Reservation exists as per rules.

Persons who are already employed shall forward their application through proper channel. Breaks in service, if any, should be accounted for.

Candidates may note that posts of Lecturers will be filled in depending upon the available work load.

Panaji, Goa
Date : 13.1.1994



UNIVERSITY COLLEGE OF MEDICAL SCIENCES

(UNIVERSITY OF DELHI)

GURU TEG BAHADUR HOSPITAL, DELHI-110095

Advertisement. No. MC/Estab./2/11/94/-I

Applications on the prescribed form are invited for the following Teaching posts to reach latest by 21.2.1994.

PROFESSOR :

Rs. 4500-7300 :- One each for the Department of Physiology*, Pathology, Medicine, Paediatrics, Obs & Gynae., Orthopaedics*, Ophthalmology*, Psychiatry, Dentistry.

READER :

Rs. 3700-5700 :- One each for the Departments of Dermatology & STD*, E.N.T.*, Anaesthesia*, and Dentistry*; Two posts each for the Departments of Physiology (One for Bio-Physics)*, and Obst. & Gynae.*; Three posts for the Department of Medicine* (One for Cardiology and one for Neurology).

LECTURER :

Rs. 2200-4000 :- One post each for the Deptt. of Anatomy, Biochemistry, Paediatrics*, Orthopaedics*, Ophthalmology*, E.N.T.*, Dentistry (Temp.*); Two posts each for the Deptt. of Surgery*, Forensic Medicine* (One temporary), Obst. & Gynae.*, Dermatology STD*, Three posts each in the Deptts. of Radiology* and P.S.M. (One for Bio-Statistics*).

E.Q. :

For Professors, Readers and Lecturers : P.G. in the subject concerned as included in the Schedule of the Indian Medical Council Act 1956/Ordinance XXIV of the University of Delhi. For non-clinical Deptts. persons possessing M.Sc. with Ph. D/D. Sc. in the subject concerned will also be eligible.

E.Q. :

For Reader in Bio-Physics : P.G. in the subject concerned or M.D. (Physiology/Biochemistry) with one year training in Biophysics.

E.Q. :

For Lecturer in Bio-Statistics : M. Sc. First Class or High Second Class in Bio-statistics/Biometry Statistics. Candidates possessing Ph. D. will be given preference.

E. Q. :

For the Post of Reader in Cardiology and Reader in Neurology in the Deptt. of Medicine : Person should possess D.M. Qualification in the subject after post-graduation and also have requisite experience as Lecturer in Cardiology and Neurology respectively.

Experience in a Medical College :

Professors : 5 years as Reader/Associate Professor. **Reader** : 3 years as Lecturer/Asstt. Professors.

Lecturer : 3 years as Demonstrator/Tutor/Registrar/Resident out of which one year after P.G.

For the posts of Professor in Paediatrics and Professor in Medicine : Persons with experience in Neo-natology and Nephrology respectively will be given preference.

For the post of Lecturer in Bio-Statistics : Experience in a Medical College will be preferred.

* All those candidates who have applied for any of these posts in response to earlier advertisements of the College appearing in May-1991, December-1991, June-1992, April-1993, July-1993 and Sept.-1993 and for which selections have not so far been held, need not apply again. However, they may intimate the College if they still wish to be considered, in which case they may, if required, update their Bio-data.

All the above posts carry N.P.A., C.C.A., H.R.A. etc. as admissible under the rules in force in the University of Delhi from time to time.

- Note :**
1. **Lecturer** : In each subject, one out of five posts (at least one) is meant for candidates belonging to SC/ST. If no suitable candidate is available, the post will be filled up by any other suitable candidate.
 2. **Professor/Reader** : Other things being equal preference will be given to SC/ST candidates.
 3. It will be open to the Institution to consider names of suitable candidates who may not have applied.

The prescribed application form can be obtained from the Office of the University College of Medical Sciences, G.T.E. Hospital, Shahdara, Delhi-110095, personally or on written request alongwith a self addressed envelope of size 28 cm x 13 cm with postage stamps worth Rs. 3/-. The cost of the form is Rs. 2/- which can be sent, if required, by post, by India Postal Order drawn in favour of the Principal, University College of Medical Sciences, Delhi-110095.

PRINCIPAL